# PUBLIC HEALTH REPORTS

VOL. 45 DECEMBER 5, 1930 NO. 49

## VENEREAL DISEASE AMONG COAST GUARD ENLISTED PERSONNEL DURING THE FISCAL YEAR 1929 [1]

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A record of the cases of venereal diseases reported among Coast Guard enlisted personnel has been kept for the third successive year, and this report is submitted primarily for the information of officers of the Public Health Service who treat the cases and of the Coast Guard under whom the patients serve.

The study of these conditions is the result of a conference of officers of the Public Health Service and of the Coast Guard whose purpose was to determine what further action could be taken to reduce the incidence of venereal diseases among Coast Guard personnel. In the discussion of the problem it soon became evident that, while these diseases were prevalent, there was not even approximately accurate knowledge of the actual conditions. Such preventive and remedial measures as were then in effect were based on general impressions and there were no data by which the success or failure of those measures could be judged. The recording of cases and the tabulation of data were undertaken to ascertain existing conditions and to know what changes take place in them.

It must not be understood that this was the first time that this problem had been considered or that measures had been taken for its solution, but it was the first time that it had been put on the basis of knowledge of the conditions and results. At the time of the conference mentioned, the chief measure in effect was the provision of prophylactic packets to units which included them in their medical requisitions. Most of the larger units carried them in stock, but their use was limited. Provision for the use of other prophylactic ointments and injections were available in some units for those who cared to apply for such treatment. In various ways, men were advised of the dangers of venereal disease. It has been impossible to ascertain how extensively these measures were being carried out. Some medical officers and some Coast Guard officers were interested and made more or less of an effort to do so, but it is the impression that there was a general feeling that venereal disease was an inevitable evil against which little could be done, and therefore the interest was not keen.

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At a second conference in 1928, steps were planned to extend a movement already started by Surg. W. C. Rucker, of the United States Public Health Service, at the Marine Hospital, New Orleans, La. Surgeon Rucker had found that talks on subjects of health and prevention of sickness, given in simple language, had been received with great interest by the patients in that hospital. It was believed that all beneficiaries of the Public Health Service would be equally interested, and that much good could be done by such talks.

The extension of this movement was authorized and put in charge of Surg. C. E. Waller. Health talks were to be instituted wherever a sufficient number of beneficiaries of the Public Health Service were grouped, and the larger units of the Coast Guard were therefore included wherever practicable. In the wide range of subjects dealing with health, hygiene, and the prevention of sickness, venereal diseases would naturally occupy a prominent place. There have been much inertia and other difficulties to meet in organizing and instituting these talks, but the work has been done; and venereal diseases and their prevention have been the subject of a number of such talks to Coast Guard men, illustrated at times by moving pictures and lantern slides. Reports indicate that, in general, considerable interest has been shown and that this measure is capable of important development.

It was felt that, in the meantime, the measures already in effect could be carried on more vigorously and more effectively. Efforts have been made to encourage the use of the prophylactic packets and also to put before the men better knowledge of the venereal diseases, their dangers, and reasons for their prevention or avoidance. This has been done by the personal efforts of medical officers and Coast Guard officers, and by the posting of bulletins, by articles in service papers, and by the distribution of literature.

In 1927 the Public Health Service published, for distribution to its beneficiaries, a pamphlet written by Senior Surg. C. H. Lavinder, entitled, "Where Away," setting forth in clear language the essential facts about venereal diseases and their prevention and care. A sufficient number of copies was sent to each Coast Guard unit to supply one copy to each man. A supply is kept at the medical section, Coast Guard headquarters, and additional copies are furnished from time to time upon request. Information is very meager as to the reception given this pamphlet, but there is reason to believe that, in general, it was found to be of interest and value.

It is quite evident that considerable interest has been aroused in this subject, and that in itself is a most valuable step toward the object desired, which is to reduce the incidence of these diseases to the lowest possible point. There is no easy way to accomplish this; and when this point is reached, it can be maintained only by continued interest and unremitting effort.

It is impossible to determine just how much effect may be attributed to each measure employed. Much of the time we may be stumbling more or less blindly, but the value of these efforts as a whole may be judged by the effect as a whole. It does not seem illogical to attribute in large part the improvement in the conditions relative to venereal diseases in the Coast Guard to the measures used to combat them. Undoubtedly other factors have had their effect for and against, but they are very difficult to determine qualitatively and quantitatively.

Record was made of every case reported as gonorrhea, chancroid, or syphilis during the fiscal year. The diagnosis is made by the medical officer treating the case and is not questioned, although effort is made to clear up doubtful and inconsistent reports and to correct errors. There is no means of estimating the number of unreported cases. Opinions as to their number differ; but it is believed that they are not numerous.

In the tables the term "late syphilis" is used, by which is meant any form of syphilis other than primary. The distinction between "primary" and "late" is desirable in the consideration of prevention, because the problems presented by each are different. At first, separate classification of "secondary" and "tertiary" was attempted, but was abandoned when found impracticable, as an identical case often would be reported under each diagnosis, and the distinction in diagnosis would serve little purpose in the problems of prevention. The diagnosis of syphilis was not infrequently qualified as "latent," apparently when no active symptoms were present. In a number of cases, the only evidence of syphilis seemed to be a positive Wassermann found upon physical examination for reenlistment or during hospitalization for another disease. Some of these cases were not reported as treated, but it is probable that most of them were treated then or later.

Comparison of the number of cases and of the rate per 1,000 is made in Tables 1 and 2, including cases continuing from the previous years. When a man was reported as having more than one venereal disease during the year, the case was counted under the head of each disease, hence the number of men affected is somewhat less than the total number of cases. Tables 3 and 4 show the number of cases of mixed and multiple infections.

TABLE 1.—*Number of cases reported*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 764 | 677 | 645 |
| Chancroid | 86 | 116 | 65 |
| Primary syphilis | 65 | 54 | 50 |
| Late syphilis | 115 | 110 | 118 |
| Total | 1,030 | 957 | 878 |

Table 1 shows that there was a reduction of 79 in the actual number of venereal cases reported during 1929, as against a reduction of 73 in the preceding year. In this connection, consideration must be given to the fact that the total number of enlisted personnel has increased each year. The average number of enlisted personnel for 1927, 1928, and 1929, was 9,750, 10,378, and 10,692, respectively, and had the 1928 rate prevailed during 1929 there would have occurred 986 cases instead of 878, or a practical reduction of 108 cases. Between 1927 and 1928 a similar reduction of 139 cases occurred, i. e., had the 1927 rate prevailed in 1928, there would have been 1,096 cases instead of 957.

Taking each year as a unit, Table 1 shows every case of venereal disease, new and old, reported during the year, and thus represents the actual situation, according to all obtainable information, which the Coast Guard and Public Health Service are called upon to meet. Any decrease in the course of a year, irrespective of cause, is an improvement, an increase the reverse.

TABLE 2.—*Rate per 1,000, all cases*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 78.36 | 65.23 | 60.33 |
| Chancroid | 8.82 | 11.17 | 6.08 |
| Primary syphilis | 6.66 | 5.20 | 4.68 |
| Late syphilis | 11.80 | 10.60 | 11.03 |
| All cases | 105.64 | 92.21 | 82.12 |

The rate of occurrence of reported cases, as shown in Table 2, was approximately 82 per 1,000 men of the average enlisted personnel in 1929, as against 92 and 106 for 1928 and 1927, respectively. These rates show clearly the relative improvement in venereal diseases. What relation the rates for venereal diseases bear to the general sick rate or to the rates for other diseases can not be determined because there are no data available from which these rates can be calculated.

The number of new cases in 1929 (Table 3) shows a decrease, with the exception of late syphilis, which increased slightly. This is not surprising, in view of present-day diagnostic facilities by which latent cases are discovered and others of obscure manifestations are found to be syphilitic.

TABLE 3.—*New cases reported*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 719 | 590 | 565 |
| Chancroid | 86 | 111 | 60 |
| Primary syphilis | 60 | 50 | 48 |
| Late syphilis | 98 | 78 | 86 |
| Total | 963 | 829 | 759 |

The marked decrease in the number of cases of chancroid calls for some comment. Comparison of the number occurring in each of the three years shows a marked difference each year; there were in all 86 cases reported in 1927; 111 in 1928; and 60 in 1929. It is evident that data covering several more years must be at hand to determine whether the number for 1928 was exceptionally high and that for 1929 exceptionally low, or whether the incidence of the disease normally fluctuates within a wide range.

TABLE 4.—*Rate per 1,000, new cases*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 73.71 | 56.85 | 52.84 |
| Chancroid | 8.82 | 10.70 | 5.61 |
| Primary syphilis | 6.15 | 4.82 | 4.49 |
| Late syphilis | 10.05 | 7.52 | 8.04 |
| All new cases | 98.77 | 79.88 | 70.98 |

New cases are those reported for the first time during the period of the year. They do not include any case already reported either in the same or previous year. A case of primary syphilis is carried as primary syphilis to the end of the year, although it may pass into the later stage and be treated as secondary syphilis before the end of the year. If the same patient is put under treatment during the following year for secondary syphilis, it is not counted as a new case because it was counted as a new case when in its primary stage.

Table 4 shows the relative changes in the rate of occurrence of new cases; i. e., those which originated, with certain exceptions, while the patient was in the Coast Guard. It is precisely this class of cases which it is especially desired to prevent, and the rates given in this table would therefore be the best criterion by which to judge the results of the preventive measures. The exceptions mentioned are the few cases (noted in Table 15) contracted prior to enlistment and an unknown number of cases of late syphilis contracted prior to enlistment, sometimes years before. It is also true that some cases reported for the first time as late syphilis were contracted after enlistment and were not reported during the primary stage.

The number of cases diagnosed simply as urethritis and ulcer in 1929 was approximately double that for the preceding year; 50 and 13 as against 24 and 7, respectively. Of the urethritis cases, 11 were treated in hospital, and 2 were off duty but not in hospital. Outpatient treatment covered a total period of 530 days, hospital treatment 125 days, and off duty but not in hospital 34 days. Three cases of ulcer were in hospital 75 days and three other cases were in hospital for a concurrent venereal disease. The other 7 patients received 142 days outpatient treatment.

These cases are not included in the data given for venereal disease but require mention because an unknown proportion were undoubtedly undiagnosed cases of gonorrhea, chancroid, or syphilis, and the increase in this class of cases may account for some of the decrease in the number of definitely diagnosed venereal cases. However, even granting that a greater number of cases of gonorrhea, chancroid, and syphilis have fallen into this undefined class in 1929, the number would not be sufficient to account for all the decrease shown in the number of those diseases.

Cases of more than one venereal disease in the same patient may be divided into two classes—those called "mixed infections," in which the patients were under treatment for more than one venereal disease at the same time, and those which may be designated by the term "reinfections," in which the patients were under treatment at different times (Tables 5 and 6).

TABLE 5.—*Mixed infections*

| Treated at the same time for— | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea and primary syphilis | 5 | 5 | 4 |
| Gonorrhea and late syphilis | 15 | 21 | 10 |
| Gonorrhea and chancroid | 10 | 10 | 3 |
| Gonorrhea, chancroid, and primary syphilis | 0 | 4 | 1 |
| Gonorrhea, chancroid, and late syphilis | 2 | 0 | 2 |
| Chancroid and primary syphilis | 2 | 9 | 2 |
| Chancroid and late syphilis | 3 | 3 | 8 |
| Total | 37 | 52 | 30 |

TABLE 6.—*Reinfections*

| Treated at different times for— | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea and primary syphilis | 3 | 0 | 4 |
| Gonorrhea and late syphilis | 1 | 0 | 3 |
| Gonorrhea and gonorrhea (apparent reinfection) | 0 | 1 | 5 |
| Gonorrhea and chancroid | 3 | 7 | 5 |
| Gonorrhea at one time, chancroid and primary syphilis at another time | 0 | 0 | 1 |
| Gonorrhea at one time, chancroid and late syphilis at another time | 1 | 0 | 0 |
| Chancroid and chancroid (apparent reinfection) | 0 | 3 | 0 |
| Chancroid and primary syphilis | 0 | 1 | 1 |
| Chancroid and late syphilis | 1 | 4 | 0 |
| Total | 9 | 16 | 19 |

As the cases recorded in Tables 5 and 6 were tabulated in the other tables under the heading of each disease and sometimes twice under the same disease, it follows that the number of men affected is less than the number of cases by the number of duplications in tabulation. The number of men affected, after proper deductions, is shown in Table 7.

TABLE 7.—*Number of men affected*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Men affected | 986 | 884 | 824 |
| Percentage of average enlisted personnel | 10.1 | 8.5 | 7.7 |

A man is not discharged from the Coast Guard because of physical disability due to venereal disease when there is hope of his restoration to duty within a reasonable time and without his being a menace to his shipmates. The number of men discharged in 1927, 1928, and 1929 for physical disability due to venereal disease is shown in Table 8.

TABLE 8.—*Discharges for physical disability due to venereal diseases*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 302 | 39 | 57 |
| Chancroid | 18 | 1 | 1 |
| Primary syphilis | 27 | 4 | 1 |
| Late syphilis | 39 | 15 | 8 |
| Total | 386 | 59 | 67 |

The very great reduction from 1927 to 1928 in the number of men discharged for this cause was the result of a change in policy early in March, 1928. The increase in the number for 1929 over that for 1928 may have been influenced somewhat by the fact that a smaller number of men suffering with venereal disease were discharged on account of undesirability, inaptitude, and other reasons in 1929 than in 1928. There were 41 such discharges in 1928 and 16 in 1929.

The days in hospital have been charged to one disease only, although at times a patient had more than one disease requiring hospital treatment. Hospital days are not included in the case of a venereal patient when the hospitalization was due to a nonvenereal disease.

TABLE 9.—*Hospital days*

| | Number of patients | | | Hospital days | | | Average number of days per patient | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1927 | 1928 | 1929 | 1927 | 1928 | 1929 | 1927 | 1928 | 1929 |
| Gonorrhea | 551 | 521 | [1] 452 | 13,943 | 20,437 | 17,109 | 24.85 | 39.23 | 37.85 |
| Chancroid | 57 | 80 | 53 | 1,399 | 2,371 | 1,784 | 24.54 | 29.64 | 33.66 |
| Primary syphilis | 50 | 34 | [2] 31 | [2] 566 | 1,319 | 1,263 | 31.52 | 38.79 | 40.68 |
| Late syphilis | 56 | 56 | 45 | 1,598 | 1,787 | 1,994 | 28.54 | 31.91 | 44.31 |
| Total | 714 | 691 | 581 | 18,506 | 25,914 | 22,150 | 25.92 | 37.50 | 38.12 |

[1] Including 3 patients discharged from the Coast Guard before the beginning of the year but remaining in hospital. These patients are included also in Table 9.
[2] Including 1 patient discharged from Coast Guard before the beginning of the year but remaining in hospital. This patient is included also in Table 9.

The general improvement in the venereal disease situation is reflected in Table 9, although the average period of hospitalization remained about the same in 1929 as in 1928. The shorter average period for 1927 was probably due in part to the greater number of men discharged on account of venereal disease during that year. Those men generally left the hospital after comparatively short periods of hospitalization.

There was actually a greater saving in hospital days than the 3,764 days shown by the table as there was an increase in the average number of men in 1929. The increase in personnel in 1929 was 314, and among this number of men at the 1928 rate, there would have occurred 29 additional cases. About 66 per cent of all cases were hospitalized; hence 19 of these additional cases would have been hospital cases, which at the average number of days in hospital would have made 724 additional hospital days. Therefore, we may consider that the reduction was approximately 4,488 in the number of hospital days.

Table 10 shows the number of days that venereal patients remained in hospital after discharge from the Coast Guard irrespective of the cause of discharge. Some of the patients were discharged during the preceding fiscal year but remained in hospital into 1929.

TABLE 10.—*Cases in hospital after discharge from Coast Guard*

| | Patients | | | Days | | | Average days per patient | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1927 | 1928 | 1929 | 1927 | 1928 | 1929 | 1927 | 1928 | 1929 |
| Gonorrhea | 200 | 75 | 72 | 2,411 | 493 | 668 | 12.05 | 6.57 | 9.28 |
| Chancroid | 17 | 2 | 4 | 365 | 27 | 53 | 21.47 | 13.50 | 13.25 |
| Primary syphilis | 19 | 6 | [1] 2 | 257 | 77 | 259 | 13.53 | 12.83 | 129.50 |
| Late syphilis | 17 | 17 | 12 | 255 | 178 | 145 | 15.00 | 10.47 | 12.08 |
| Total | 253 | 100 | 90 | 3,288 | 775 | 1,125 | 13.00 | 7.75 | 12.50 |

[1] See footnote (²) under Table 13.

Table 11 shows the number of days off duty, but not in hospital, although some of the same men were in hospital for the same disease at other times. The number of days is comparable to that for 1927 and considerably greater than for 1928. The 1928 number may have been abnormally low.

TABLE 11.—*Days off duty but not in hospital*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 694 | 179 | 749 |
| Chancroid | 32 | 29 | 42 |
| Primary syphilis | 8 | 0 | 86 |
| Late syphilis | 19 | 3 | 32 |
| Total | 753 | 211 | 909 |

It is of special interest to the Coast Guard to know the amount of time lost through absence from duty on account of venereal disease. This is shown by Table 12, which includes the data shown by Tables 9 and 11, less those of Table 10. It differs from the number of hospital days shown by Table 9, which includes Table 10, but excludes the data of Table 11.

TABLE 12—*Days off duty while in Coast Guard*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 12,228 | 20,123 | 17,190 |
| Chancroid | 1,066 | 2,373 | 1,773 |
| Primary syphilis | 1,317 | 1,242 | 1,090 |
| Late syphilis | 1,362 | 1,628 | 1,881 |
| Total | 15,973 | 25,366 | 21,934 |

Here again we must take into consideration the 19 hospital cases which would have occurred at the 1928 incidence rate with the increase of personnel, and the 724 days which these patients would have remained in hospital. More or less the same number of days of duty would have been lost to the Coast Guard; they should be considered in addition to the reduction shown in Table 12, making an approximate saving of time to Coast Guard of 4,156 days.

It is of some interest to note the longest periods of hospitalization as shown by Table 13.

TABLE 13.—*Longest period of hospitalization, in days*

| | 1927 | 1928 | 1929 | | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|
| Gonorrhea | [1] 108 | [2] 153 | [4] 169 | Primary syphilis | 100 | [3] 91 | 70 |
| Chancroid | 86 | 110 | 139 | Late syphilis | 163 | 114 | [5] 238 |

[1] One other patient, in part of two fiscal years, was 165 days in hospital.
[2] One other patient had been 95 days in hospital on July 1, 1927, and remained 84 more days, a total of 179 days.
[3] One other patient had been 81 days in hospital on July 1, 1928, and remained there 247 days more, a total of 328 days.
[4] Remained in hospital 29 more days in next fiscal year.
[5] Remained in hospital 22 more days in next fiscal year.

The accompanying graph shows by months the admissions and readmissions to off-duty status for the three years. It gives a general idea of the number of men absent from duty all the time on account of venereal disease, making due allowance for the constant fluctuation.

The rates for 1928 and 1929 were appreciably less than the rate for 1927 in spite of the increase of personnel. It must be considered also that had the case incidence remained at the 1927 rate, the number of admissions as well as admission rate would have increased considerably in 1928 and 1929.

It is of interest to know the period of service rendered by men discharged while suffering with venereal disease. Table 14 gives the comparison for the three years. Men suffering with a venereal disease but discharged on expiration of enlistment, are not included.

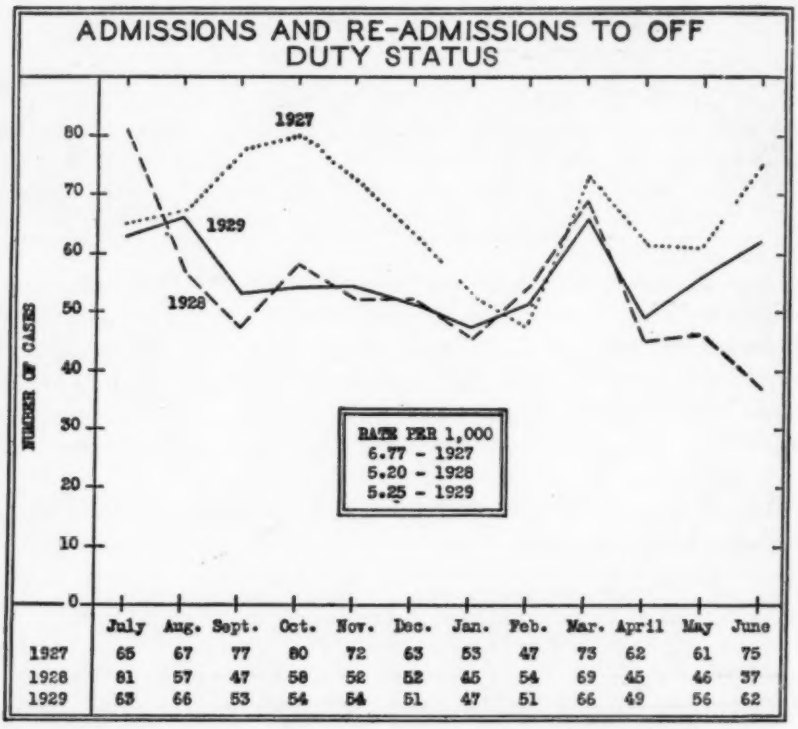


FIGURE 1.—Admissions and readmissions for venereal disease to off-duty status, by months, during the years 1927, 1928, and 1929

TABLE 14.—*Service of discharged men*

| | 1927 | 1928 | 1929 | | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|
| Less than 1 month | 38 | 4 | 5 | From 8 to 9 months | 12 | 7 | 3 |
| From 1 to 2 months | 50 | 3 | 3 | From 9 to 10 months | 11 | 2 | 3 |
| From 2 to 3 months | 37 | 7 | 7 | From 10 to 11 months | 12 | 6 | 4 |
| From 3 to 4 months | 27 | 5 | 3 | From 11 to 12 months | 21 | 2 | 2 |
| From 4 to 5 months | 18 | 6 | 2 | More than 1 year | 115 | 44 | 40 |
| From 5 to 6 months | 17 | 8 | 1 | | | | |
| From 6 to 7 months | 15 | 1 | 3 | Total | 386 | 100 | 84 |
| From 7 to 8 months | 13 | 5 | 8 | | | | |

Table 14 shows close parallelism between 1928 and 1929, but does not show for those years as high a proportion of discharges after very short periods of services as occurred in 1927, in which year there was a relatively high incidence rate among men who had been in the Coast Guard but a short time, as indicated by the large number of men discharged with less than four months' service. It is evident that the practice in effect at that time, of discharging many of these men on account of venereal disease, materially increased the turnover in personnel. Other men were enlisted in their places and some of these may have been discharged in a short time for the same reason. It seems probable that the high rate of discharges, in 1927, of men having only a few months' service may have been influenced by the turnover in personnel.

Table 15 shows a slight reduction in 1929 from 1928 in the number of men who had venereal disease at the time of enlistment, and a much greater reduction from the figures for 1927. Late syphilis is not included, because of the uncertainty, in so many cases, of the time when the disease was contracted. The decrease in 1928 and 1929 is attributed largely to the efforts made to improve the making of physical examinations for enlistment.

TABLE 15.—*Men having venereal disease on enlistment*

| | 1927 | 1928 | 1929 |
|---|---|---|---|
| Gonorrhea | 35 | 8 | 7 |
| Chancroid | 1 | 0 | 0 |
| Primary syphilis | 2 | 2 | 0 |
| Total | 38 | 10 | 7 |

The data for 1927 showed that a very high percentage of the cases of gonorrhea, chancroid, and primary syphilis (excluding those contracted before enlistment) were reported within a comparatively short time after enlistment, particularly within the first year. The information for 1928 showed that this tendency was less marked and that there was a corresponding increase in the occurrence of cases in men of longer service. This tendency was even less marked in 1929. A comparison of the three years is shown in Table 16, based on the case rate per 1,000, so that variations in the number of men in each period automatically adjust the comparison.

TABLE 16.—*Case rate per 1,000 men in different periods of service*

| Men in service— | 1927 | 1928 | 1929 | Men in service— | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|
| Less than 1 year | 213 | 155 | 110 | From 2 to 3 years | 22 | 52 | 67 |
| From 1 to 2 years | 79 | 104 | 71 | More than 3 years | 6 | 19 | 31 |

Table 16 shows a very marked reduction in 1929 in the rate for cases in the first period, less so for the second period, and a marked increase for the last two periods. This may be interpreted to indicate that the year's reduction in the actual number of cases took place chiefly among first year men, and that the statistics for the year would have shown a greater reduction had it not been partially offset by an increase among men with more than two years of service. The rates are based upon the number of men in each period about the middle of the fiscal year, as representative of the average number for the year.

It is probable that several factors have operated to cause the shift in rates shown in the table. We can not know and fix the influence of each factor, but we may seek the possible effect of those factors which we know. For the high incidence of cases among recently

enlisted men in 1927, a plausible explanation, at least in part, was found in certain commonly existing factors. The first or second pay day may provide means for the gratification of desires held in abeyance by the lack of financial means, and frequent exposure is likely to follow. Opportunities are not lacking, because a man on shore liberty is assumed to have sufficient money and the opportunity seeks him. Many are young men, often inexperienced and in unfamiliar surroundings. Not "knowing the ropes," they follow the most open paths and find the most accessible opportunities usually the most dangerous.

A great proportion of the turnover in personnel is first enlistments, and among those men an unknown number would be affected by the factors mentioned. It seems possible, therefore, that a large turnover might affect the venereal disease rate, especially among recently enlisted men. The turnover in enlisted personnel in the Coast Guard was 10,021, 6,460, and 6,862 for the fiscal years 1927, 1928, and 1929, respectively, and it seems probable that the smaller turnover in 1928 and 1929 may have had an influence in reducing the number of cases among first-year men.

An additional influence may be credited to the venereal disease control measures which have been mentioned. Certain medical officers have paid special attention to the avoidance and prevention of infection among recruits.

Equally plausible causes for the increased rates for men in service more than two years are not so readily apparent. A certain type of man is likely to contract a venereal disease again and again, profiting little by experience; and the retention of such men in service seems to be a possible factor in the increased rates under discussion. About 12 per cent of the patients whose cases were used for the computations for 1929, had records of a previous venereal infection. Of these, about 1⅓ per cent were in the first period, about 3½ per cent in the second period, and over 7 per cent in the third and fourth periods. The effect of the retention of these men in service was most appreciable in the third and fourth periods, and has had a certain amount of influence in raising the rates for those periods. The retention of these men in service would reduce turnover, but it has caused a certain amount of increase in the rates for the third and fourth periods. This seems at first glance to be paradoxical, in view of the previous credit given to less turnover for reduction in the rate for the first period; but the tendency of the less turnover to increase the rate is much less marked than is its tendency to decrease it; and, furthermore, the increase is manifested in the later periods, because there was usually an interval of more than one year, often several years, between attacks, during which time the man had passed from the first period to a longer one.

Another factor may be mentioned: There are indications that there is now less concealment of cases, particularly among men of longer service, as the interest aroused in venereal diseases has the effect of bringing cases to treatment. No doubt there are other factors at work, but their causative relation is too obscure to be worth discussion at present.

Recognizing that the danger of venereal infection is serious in any large port, it is of considerable interest to know, if possible, those ports in which the danger is particularly great. For this reason an attempt has been made to estimate and tabulate the incidence rates for a number of ports at or near which an appreciable number of Coast Guard men are stationed.

The lack of definite data as to the place where infection was acquired and the frequent variations in personnel at a given place necessitate a considerable assumption on this point. It must also be remembered that the numbers with which we are dealing are relatively small, so that a slight difference of a very few cases may make a relatively large difference in the rate. However, with these limitations, Table 17 has some value. It is based on 555 new cases of gonorrhea, chancroid, and primary syphilis in which the place of infection may be assumed with fair probability among approximately 7,500 men.

TABLE 17.—*Incidence rates per 1,000 at ports*

| | 1927 | 1928 | 1929 | | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|
| New London | 74 | 40 | 30 | Galveston | 271 | 233 | 66 |
| New York | 108 | 93 | 68 | Portland, Me | 291 | 65 | 123 |
| Boston | 113 | 73 | 94 | St. Petersburg | (1) | 38 | 97 |
| Norfolk | 142 | 103 | 73 | Fort Lauderdale | (1) | 54 | 28 |
| San Francisco and Oakland | 86 | 60 | 122 | Wood's Hole | (1) | 46 | 34 |
| Baltimore | 193 | 223 | 111 | Charleston, S. C | (1) | 183 | 244 |
| Seattle | 83 | 140 | 181 | Cape May | (1) | 28 | 17 |
| Biloxi | 54 | 61 | 33 | Pascagoula | (1) | (1) | 88 |
| San Pedro | 100 | 33 | 129 | Savannah | (1) | (1) | 97 |
| Key West | 130 | 115 | 117 | Fernandina | (1) | (1) | 65 |
| Wilmington, N. C | 136 | 173 | 111 | Juneau | (1) | (1) | 92 |
| Mobile | 288 | 200 | 189 | | | | |

[1] Not given.

New cases reported have been tabulated on the basis of the unit to which the patient was attached when infection apparently occurred. The resulting rates of incidence for each unit in different years and for different units under comparable circumstances, varied so greatly that as yet they are not of sufficient value to cite. Evidently those rates are influenced by many factors which are obscure and require further study.

As the grouping of men by ratings may indicate in a general way some differences in types of men, their habits, environments, etc., which may have a bearing upon the occurrence of venereal disease, the incidence rate by ratings has been tabulated in Table 18. The rate is per 1,000 men, based upon the average strength of each rating for the year. Cases of all kinds are included.

TABLE 18.—*Rates per 1,000, by ratings*

| | 1927 | 1928 | 1929 | | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|
| Boatswain's mate | 29 | 38 | 23 | Water tender | 97 | 101 | 70 |
| Coxwain | 191 | 126 | 100 | Engineman | 77 | 102 | 107 |
| Gunner's mate | 78 | 97 | 68 | Fireman | 265 | 171 | 162 |
| Quartermaster | 86 | 60 | 72 | Yeoman | 66 | 45 | 50 |
| Seamen | 175 | 175 | 154 | Storekeeper | 86 | 60 | 53 |
| Surfman | 19 | 26 | 30 | Pharmacist's mate | 28 | 0 | 38 |
| Electrician's mate | 205 | 33 | 29 | Commissary steward | 75 | 77 | 39 |
| Radioman | 85 | 89 | 44 | Ship's cook | 108 | 108 | 123 |
| Carpenter's mate | 81 | 61 | 70 | Officer's steward | 98 | 85 | 70 |
| Machinist's mate | 60 | 57 | 48 | Mess attendant | 326 | 235 | 239 |
| Motor machinist's mate | 62 | 52 | 44 | | | | |

It is a cause for considerable satisfaction that the improvement in the conditions noted in the figures for 1928 continued during the fiscal year ended June 30, 1929. It seems justifiable to attribute this in large measure to increased interest in the subject, better appreciation of its importance, and greater effort to avoid or prevent infection. It is to be hoped that the improvement will continue until the irreducible minimum is reached. There is no reason to believe that the present conditions are the best attainable.

SUMMARY AND COMMENT

In this review of the existing conditions, three outstanding facts should receive attention: The reduction in the actual number of cases, and in the incidence rate, notwithstanding an increase in the number of personnel; the reduction in the number of hospital days for 1929; and the reduction of the amount of time lost to the Coast Guard.

The figures for 1928 showed a reduction of 73 in the actual number of cases from 1927, and the figures for 1929 showed a further reduction of 79 cases. In each year there was an increase in the number of enlisted men, and had the 1927 incidence rate continued in 1928 and 1929, there would have occurred 139 more cases in 1928 and 251 more cases in 1929, instead of the decrease which actually occurred. The incidence rate per thousand fell from 105.64 for 1927 to 92.21 for 1928 and to 82.12 for 1929. Considering only new cases reported, their number was 136 less for 1928 and 70 less for 1929 than for 1927; and the incidence rate fell from 98.77 for 1927 to 79.88 for 1928 and 70.98 for 1929.

The number of days in hospital and of time lost to the Coast Guard rose sharply in 1928, and the average stay in hospital was notably longer. Sufficient explanation of this is not readily apparent, but the retention of many men in service in 1928 instead of discharging them, as in 1927, had considerable effect in producing the result, because the discharged men remained a comparatively shorter time

in hospital after discharge than did the men retained in service; and, of course, when a man was discharged his loss of time ceased to be charged to Coast Guard time.

The figures for 1927 may have been normal for conditions which prevailed during the greater part of that year, whereas under the changed conditions prevailing during 1928 and 1929 the figures for those years seem more nearly comparable. The average stay in hospital changed but slightly, but there was an actual saving of 4,488 hospital days—an appreciable economy.

The time lost to the Coast Guard may be considered from the same point of view. For 1929 there were actually 3,432 less days lost than for 1928, to which should be added the number of cases which would have occurred had the 1928 rate obtained with the increase in personnel. It would be approximately the same as the corresponding saving in hospital time, i. e., 724 days, making a total saving of time to the Coast Guard of 4,156 days. This represents an appreciable saving in efficiency, a point which should appeal strongly to the Coast Guard officer who is hampered in the performance of his duty by the absence of any member of the unit's complement, and also to the enlisted man who is called upon to do extra duty because of the absence of his shipmate.

It has been frequently said to me that the Coast Guard loses nothing financially when a man is off duty on account of venereal disease. This would be economy at the expense of efficiency, which has not been advocated even in the most insistent appeals for economy. Moreover, the suggestion that the Coast Guard suffers no financial loss in these cases is only partially true, because certain men continue to receive pay, others receive a small allowance, travel expense is incurred, and in the case of a discharged man there is mileage to be paid and the expense of enlisting another man in his place.

It is not believed that the present conditions regarding venereal diseases in the Coast Guard are the best attainable. On the contrary, it is considered that the application of preventive measures can be improved and extended with still further beneficial results. It is not to be expected that these diseases can be entirely eliminated; and as the number of cases is reduced, it will become increasingly difficult to reduce them further.

# MILIARY LUNG DISEASE DUE TO UNKNOWN CAUSE[1]

By R. R. SAYERS, *Chief Surgeon,*[2] *U. S. Bureau of Mines,* and F. V. MERIWETHER, *Surgeon,*[3] *U. S. Bureau of Mines*

## INTRODUCTION

In the spring of 1927, the United States Bureau of Mines, the Metropolitan Life Insurance Co., and the Tri-State Zinc and Lead Ore Producers Association agreed to maintain cooperatively a clinic at Picher, Okla., for the study and control of silicosis and tuberculosis among the miners. Physical examination, including X-ray examination of the chest, is made of the men prior to employment and at least once yearly thereafter. A total of 18,285 individuals had been examined up to and including December, 1929. Early in the work an occasional case was encountered in which the Röntgenograms appeared to be those of miliary tuberculosis; but in many cases the history was practically negative, without symptoms, and, with two exceptions, all subjects were apparently healthy.

Grateful acknowledgment is made to Dr. A. J. Lanza for his interest and assistance in securing information in regard to similar cases, to Dr. Charles Thom, of the United States Department of Agriculture, for his advice and valuable work in identifying the fungus, and to Surg. R. E. Dyer, of the National Institute of Health, United States Public Health Service, for preparing antigens used in the skin test.

The following is a summary of 125 case histories.

## PERSONAL DATA

*Age.*—The cases ranged in age from 16 to 69 years. A tabulation into 10-year groups shows that 3.2 per cent were under 20 years of age, 36 per cent were between 20 and 30, 35.2 per cent between 30 and 40, 16.8 per cent between 40 and 50, 7.2 per cent between 50 and 60, and 1.6 per cent were 60 or over. The greatest number of cases occurred between 20 and 30 years of age and the next greatest between 30 and 40 years. These figures indicate that the greatest number of cases occurs in the years in which adult tuberculosis is most common.

*Race.*—With one exception, an Indian, the subjects were all white native-born Americans. The majority were born and reared in the vicinity of the mining field. A tabulation of the places of birth shows that about 90 per cent were born in Missouri, Oklahoma, Kansas, Arkansas, and Illinois. Most of the subjects came from rural districts or had spent several summers in the harvest fields.

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[1] Presented at the meeting of the National Tuberculosis Association, Memphis, Tenn., May 8, 1930. Published by permission of the Director, U. S. Bureau of Mines.

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*Family history.*—Although the study covers 125 cases, the family histories of only 54 were secured in detail. These were tabulated and the results are shown in the accompanying table.

| Member of family | Living | Dead | Cause of death (per cent) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Senility | Diseases of heart | Paralysis | Accidents | Pneumonia | Tuberculosis | Influenza | Typhoid fever | Nephritis | Cancer | Childbirth | Whooping cough | Measles | Cause not given |
| Father | 47.0 | 53.0 | 3.9 | 5.8 | ----- | 1.9 | 13.7 | 5.8 | 1.9 | 7.6 | 1.9 | ----- | ----- | ----- | ----- | 9.5 |
| Mother | 54.8 | 45.2 | 5.8 | 5.8 | 1.9 | ----- | 7.6 | 1.9 | 1.9 | ----- | ----- | ----- | 1.9 | ----- | ----- | 15.6 |
| Brother | 63.0 | 37.0 | ----- | ----- | ----- | 7.4 | 3.7 | 3.7 | 3.7 | 5.5 | ----- | ----- | ----- | 3.7 | 3.7 | 3.7 |
| Sister | 70.4 | 29.6 | ----- | ----- | 3.7 | 1.8 | 1.8 | ----- | 1.8 | 1.8 | ----- | 1.8 | ----- | 3.7 | 3.7 | 9.2 |

The table shows that the death rate from pneumonia is twice as great for fathers as for mothers and the death rate from tuberculosis is three times as great for fathers as for mothers. The deaths from tuberculosis in the families of the subjects under discussion are approximately the same as in the families of metal miners in this district. Further, the number of subjects themselves who have had pneumonia is approximately 30 per cent higher than in miners.

*Past history of diseases.*—The subjects gave histories of the usual diseases of childhood and adolescence. In only two instances, namely, pneumonia and influenza, did the number having such diseases exceed the normal for the mining industry in this locality. The other respiratory diseases, such as pleurisy, hay fever, asthma, and acute bronchitis, were approximately 50 per cent less frequent than among the miners.

*Occupational history.*—The first reaction on reading the Röntgenographs of these men was that their condition was associated with mining; but on closer study of the histories it was found that 8 per cent had never worked in or around mines and that 3.2 per cent had worked on farms all of their lives. Of those giving a mining history, 18.1 per cent had worked less than 1 year in the mines; 18.1 per cent from 1 to 2 years; 12.7 per cent from 3 to 4 years; 12.8 per cent from 5 to 6 years; 6.3 per cent from 7 to 8 years; 6.3 per cent from 9 to 10 years; 5.3 per cent from 11 to 12 years; and 20 per cent over 12 years.

The past occupations given by the men show that 54.4 per cent had been farmers, while only 23 per cent of all the miners in the district came from farms; that 12.8 per cent had been in school; and 31.2 per cent had been oil-field workers, pulp-mill workers, mechanics, and teamsters. With but two exceptions, the farms from which the men came were located in the wheat belt. The two exceptions were farms raising corn or alfalfa. The subjects who had not worked on

farms came from agricultural communities and, with but one exception (a pulp-mill employee), from sections producing large amounts of wheat and hay.

### SYMPTOMS

Many of the subjects (65.6 per cent) gave no symptoms at all. Of the remainder (34.4 per cent) the following percentages gave the symptoms stated: Cough, 53.3; dyspnea, 62.6; expectoration, 18.5; hemoptysis (blood-tinged mucus), 11.6; loss of strength, 39.4; loss of appetite, 13.9; night sweats, 6.9; fatigue, 3.1; and pain in chest, 18.5.

A study of the Röntgenograms and histories of an investigation of miners' phthisis, carried out in this district in 1927, revealed six subjects with the undiagnosed condition. Their symptoms and Röntgenograms have remained about the same, except in one case which showed some improvement. Observation on the cases to date indicates that many cases have no symptoms; but when symptoms are present the most common are dyspnea, cough, and the expectoration of blood-tinged mucus. The symptoms apparently remain stationary, or tend toward a slight improvement.

### PHYSICAL EXAMINATION

The records of the physical examinations show that 87.2 per cent of the subjects were apparently healthy; 12.8 per cent pale or emaciated; 65.6 per cent were robust; 12.8 per cent fair; and 21.6 per cent not given.

The weight of the subjects ranged from 112 pounds to 187 pounds (with clothes on), averaging 150.1 pounds. They gave their usual weight as from 125 to 185 pounds, averaging 151.4. A study of the histories shows that at the time of examination 12 per cent were under their usual weight by 10 or more pounds, and 2.4 per cent were underweight by 20 or more pounds. One subject showed a gain of 5 pounds.

The height of the subjects varied from 60 to 75 inches, averaging 68.7 inches.

The pulse rate of the subjects averaged 83 per minute taken before exercise and 88.3 per minute taken after exercise (exercise consisted in stepping on a chair twenty times in 30 seconds). The pulse rate averaged 5.3 beats above normal after the subjects had rested for 2 minutes; in 56.1 per cent of the subjects it did not return to normal within 2 minutes, in 23.4 per cent it returned to normal, and in 13.5 per cent it dropped below normal within 2 minutes. The reaction of the remaining 7 per cent is not stated.

The respiration averaged 17.8 per minute before exercise and 19.8 after exercise (exercise the same as above), an increase of two respirations per minute after 2 minutes' rest; 47.3 per cent did not return to normal after 2 minutes' rest; 27.4 per cent returned to normal,

and 12.1 per cent dropped slightly below normal. The reaction of the remainder was not stated. The respiration and pulse rate after exercise indicated some dyspnea in approximately one-half of the cases.

The average blood pressure was 126.9 mm. systolic, 79.6 mm. diastolic, and 47.3 pulse pressure. The blood pressure of 8 per cent of the subjects was above 150 mm. systolic. Four subjects had a low blood pressure (below 100 mm.).

Examination of the eyes, ears, and teeth disclosed little variation from the other males of the district of the same age groups.

The lung expansion varied from one-half inch to 6 inches, averaging 2.8 inches. In 4.8 per cent the expansion was 1 inch or less; in 29.6 per cent, it was from 1 to 2 inches; in 37.2 per cent, from 2 to 3 inches; in 19.6 per cent, from 3 to 4 inches; and in 8 per cent, over 4 inches (one 6 inches). The average lung expansion corresponds closely to that of miners with silicosis uncomplicated with tuberculosis. First degree silicotics have a lung expansion of 2½ to 3½ inches, second degree 2 to 2½ inches, and third degree 2 inches or less, averaging about 1½ inches.

Inspection of the chests showed that 88.8 per cent were normal in shape, 3.8 per cent were flat, and 6.3 per cent were barrel shaped. Four per cent had superclavicular retractions and 2 per cent had sternal retractions. In each instance the retractions were marked, especially in the cases with sternal retractions. This condition was very noticeable in these cases, but was not considered to be associated with the disease under discussion.

Palpation showed 3.2 per cent with a decided increase in vocal fremitus over the entire chest. Two per cent showed diminished fremitus over the entire chest.

Percussion of the chest showed that 8 per cent had a slight dullness on one or both sides. This dullness was located in the upper section of the chest in the majority of cases.

The physical signs found on auscultation varied considerably in the different individuals, resembling closely the signs occurring in silicosis. The breath sounds in 48 per cent of the cases were harsh, rough, bronchial, or bronchovesicular in character over the entire chest; 8 per cent were harsh and rough in the upper half and weak in the lower half. The voice sounds in 6.6 per cent of the subjects were increased, more often in the upper half of the chest.

Râles were found in 23.2 per cent of the cases; in 13.4 per cent at the bases of the lungs, in 5.8 per cent at the apices, and in 4 per cent they were scattered. When râles were found, they were usually of the moist, mucus type. Three cases had semifine persistent râles heard at the apices, after an expiratory cough; in two of these cases

the Röntgenogram showed some evidence of active tuberculosis. In only four cases did the râles persist after coughing.

The heart examination was negative in all cases.

### RÖNTGEN FINDINGS

A study of the Röntgenograms shows a decided enlargement of the hilum shadows in 91.2 per cent of the cases and a slight enlargement in 7 per cent. The shadows are very dense and in 15 per cent of the cases contain one or more large calcified spots in the hilum. In one patient these spots were so numerous that the entire hilum appeared to be filled.

The lineal markings, while somewhat more pronounced than in the average metal miner, are not as noticeable as in early silicosis. The markings extend to all parts of the lungs, but are more noticeable in the lower two-thirds, appearing to increase toward the bases. In 16.3 per cent of the patients, "budding," or early mottling along the bronchial tree, was noticed, indicating beginning silicosis. These patients had been working in lead and zinc mines for several years, and the fine mottling was probably due to silica dust.

The most characteristic finding was the large number of discrete, dense, shotlike spots scattered over the lungs. An effort was made to count the spots on flat pictures. The tabulation shows spots as follows: 28.8 per cent of the subjects had less than 25, 27 per cent from 25 to 50, 11.1 per cent from 50 to 75, 7 per cent from 75 to 100, 10.6 per cent from 100 to 200, 9.6 per cent from 200 to 300, 3.6 per cent from 400 to 500, and 1.6 per cent over 500. In 94 per cent of the cases from 55 to 95 per cent of the spots were located in the bases. They were scattered about equally over the lung area in 6 per cent of the cases. The cases can be divided roughly into two groups—those with large spots and those with small spots. The large spots vary in size from 4 mm. to 1 cm., averaging about 6 mm. They are not so numerous as the small spots, and appear to be more dense, discrete, and symmetrical. The large spots are mostly in the bases (average 80 per cent). The small spots vary from 1.5 mm. to 5 mm., averaging 3 mm. They are fairly dense, round, and uniform. They are occasionally seen against the heart shadows, where they closely resemble lead shots of about a No. 8 size.

A review of the Röntgenograms of the clinic shows that 29 of the cases have been returning at various intervals during the past two or three years. One case shows a decrease in the number of spots in the lungs, has gained weight, and is no longer short of breath. The other cases are about the same as when originally examined. The majority of the cases have been reexamined from six months to one year apart, and in only two cases (tuberculosis cases) has any decided change for the worse been noted.

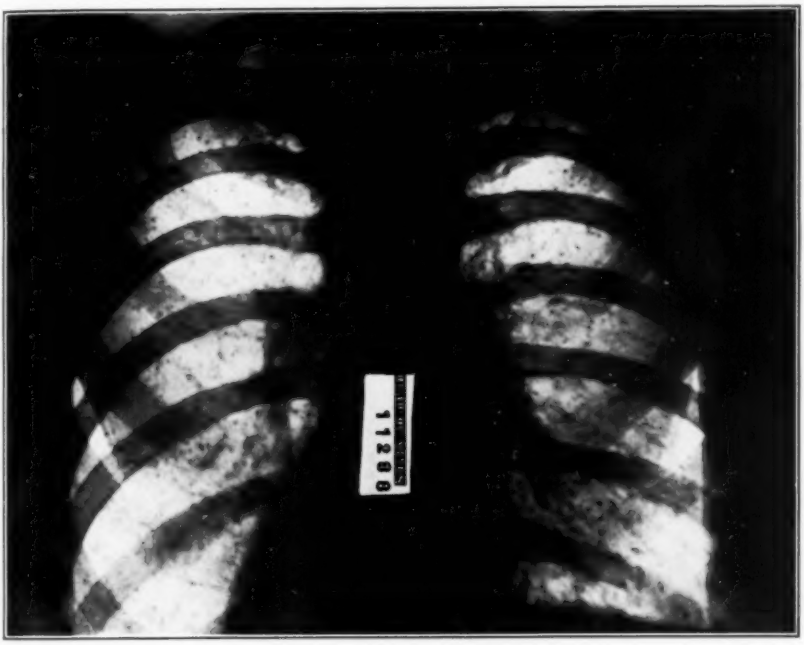

FIGURE 1.—See text for case history

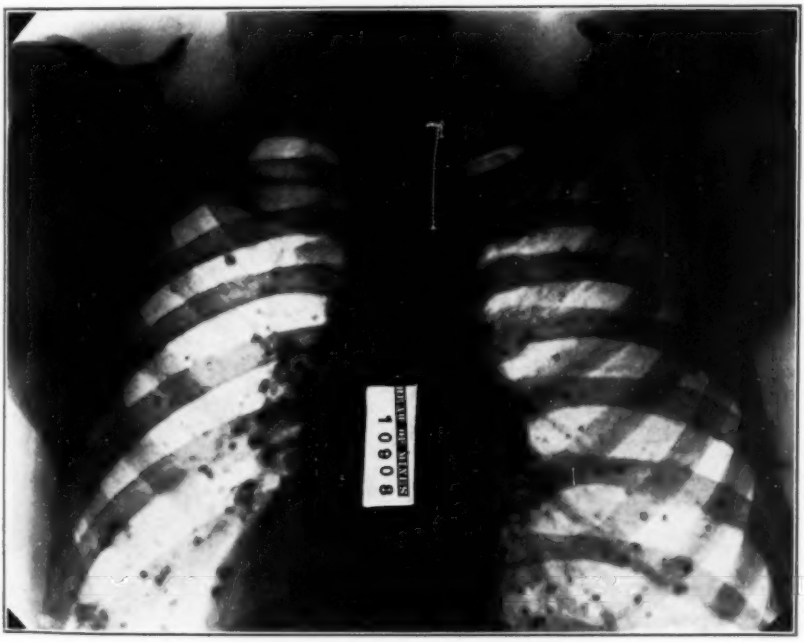

FIGURE 2.—Case No. 10908. One examination. Date of examination, August 28, 1928. Age 25. Born in Arkansas; married; smokes. Past history of disease: Measles. Occupational history: Six months in lead and zinc mines; before that, cotton farming. Present history negative. Physical examination shows appearance good; development robust; present weight, 143; usual weight, 141; pulse rate, 120; respiration, 14; blood pressure, 130/100; chest, 33/36; findings negative. Wassermann negative. X ray: Lungs show numerous calcified spots throughout

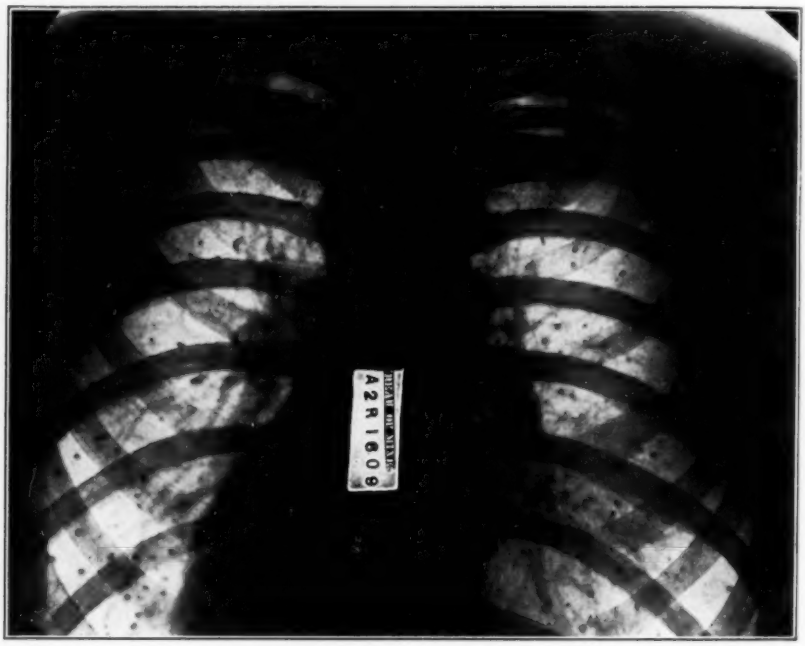


FIGURE 3—Case No. 1609. Five examinations. First examination, January 26, 1927. Age, 26. Born in Arkansas. Gives history of using alcohol, tobacco, and coffee. Past history shows mumps, whooping cough, measles, chicken pox, malaria, pneumonia, coryza, acute bronchitis. Present history negative. Gives occupational history of 2½ years in lead and zinc mines. Physical examination shows weight 151; pulse rate before exercise, 90, after exercise, 102; respiration before exercise, 20, after exercise, 30; blood pressure, 118/82; chest measurement, 32/35; findings negative. X ray diagnosis negative, except for numerous calcified spots in both lungs.
Second examination, October 11, 1927. X ray negative, except for spots.
Third examination, March 15, 1928. Negative, except for calcified spots.
Fourth examination, May 3, 1929. Four-plus Wassermann and Kahn. Treatment begun May 16. X ray of chest negative, except for calcified spots.
Fifth examination, December 28, 1929. Weight 153. Examination negative, except for calcified spots. Had had 12 treatments of neoarsphenamine and 18 of mercury. Kahn negative.

LABORATORY FINDINGS

A careful laboratory study was made of 88 cases. Two cases showed tubercle bacilli, and 7 had four plus Wassermanns. The blood counts showed the red blood cells to be normal in number, color, and size. The white blood cells in all but two cases ranged from 5,000 to 10,000 per cubic mm., averaging 9,700. The two exceptions had a count of 10,900 and 14,000, respectively. The differential count showed the polymorphonuclear neutrophiles to range from 58 to 75 per cent, the large lymphocytes from 1 to 4 per cent, the small lymphocytes from 28 to 35 per cent, the transitionals from 1 to 4 per cent, and the eosinophiles from 1 to 3 per cent. The bacteriological examinations of the sputum of the first 10 or 12 cases were considered to be negative. In an unstained smear a fungus was found, and 30 cases since examined all show a fungus. Media plates show an abundant growth of a superficial character after three or four days at 37° C. There are two types identified by Doctor Thom as *Aspergillus fumigatus fisheri* and *Aspergillus niger*. Doctor Thom suggested that antigens be prepared from the cultures.

An antigen of the *Aspergillus fumigatus fisheri* and later an antigen of the *Aspergillus niger* were prepared by Surgeon Dyer of the National Institute of Health of the United States Public Health Service. These antigens were used in a dermal test to find out whether any sensitization occurred. Ten cases were tested with *Aspergillus fumigatus fisheri* and all showed negative results. An antigen of the *Aspergillus niger* was used in six cases and a marked positive reaction obtained in each case. Each of these cases was tested at the same time with the antigen of the *Aspergillus fumigatus fisheri* and in one instance a weak reaction occurred.

An attempt was made to find the same fungi in the mouths or sputum of men working in or around the mines, and in one instance a similar organism was found. As the organism was not commonly found in miners, cultures of mine dust were made, with negative results.

TYPICAL CASE

A typical case is given in order to illustrate more clearly the findings, or rather the absence of physical findings.

Case No. 11288 (fig. 1): A white male, 39 years of age, married and father of four children. Born in Virginia. Had never lived or associated with a tubercular patient to his knowledge. Gave a history of having had mumps, scarlet fever, whooping cough, measles, diphtheria, smallpox, and influenza; denied history of any venereal disease.

Occupational history: Patient had worked as a shoveler in the lead and zinc mines for one year. Past occupation, wheat farmer for

entire life. Gave a negative history for cough, shortness of breath, expectoration, spitting blood, loss of strength, loss of appetite, pain in chest, night sweats, and fatigue.

Physical examination showed the man to be of good appearance, plethoric, average development, well nourished, weighing 160 pounds stripped, 70½ inches tall. Sitting pulse rate 72, respiration 18. After exercise (stepping on chair 20 times in 30 seconds) pulse returned to 74 and respiration to 18 after two minutes' rest. Blood pressure was 120 systolic, 60 diastolic, and 60 pulse pressure. Eyes negative, hearing negative, throat negative, nose negative, teeth clean and sound, with none missing, decayed, or artificial. No pyorrhea.

The chest examination showed an expansion of 3 inches, normal in shape; inspection, palpation, percussion, and auscultation were negative. This man was reexamined 2 months and 18 days later, and the chest was negative for all findings.

The heart was negative, abdomen negative, no glandular enlargements, extremities negative; genito-urinary system, and skin were negative.

The X-ray examination shows hilum shadows enlarged, small amount of lineal markings and small spots about 1.5 to 4 mm. in size scattered over the entire lungs. The flat picture shows 564 spots, discrete, symmetrical spheres, 70 per cent of which are at the bases of the lungs.

The laboratory findings show red cells 4,720,000, white cells 9,200, hemoglobin 87 per cent, differential count; polymorphonuclears 64 per cent, large lymphocytes 2 per cent, small lymphocytes 33 per cent, transitionals 1 per cent; Wassermann negative; sputum negative for tubercle bacillus but shows a fungus-like organism. The case is interesting in that it shows marked chest findings on Röntgen examination, with very few symptoms of disease.

It was impracticable in the work at Picher, Okla., to use the tuberculin test or to obtain autopsies on any of these subjects because of probable labor disturbance.

## DISCUSSION

In making a diagnosis one would probably think of miliary tuberculosis, pneumonoconiosis, calcium metastasis, or pneumomycosis. The present knowledge and conception of these diseases do not coincide entirely with the physical and Röntgenogram findings of the cases under discussion.

*Miliary tuberculosis.*—The known high rate of tuberculosis in this district and the Röntgen findings would suggest that the disease might be miliary tuberculosis. The cases, with two exceptions, appear healthy and show few, if any, symptoms or physical signs of miliary tuberculosis. The cases that have returned for reexamina-

tion show that the condition has remained stationary in all cases except three, one showing some improvement and two having developed pulmonary tuberculosis.

Marlow (1) gives a brief review of 36 fairly authentic cases of miliary tuberculosis that he found in the literature. He calls attention to Northnagel's belief that many more cases recover than is realized, because the diagnosis is rarely made if the patient improves. More recently, Opie (2) has called attention to the same idea, emphasizing the fact that cases are not always fatal. With the increasing frequency of more or less routine chest X rays in some of the larger hospitals, he thinks we may expect to find more and more instances of inactive miliary tuberculosis and that it is possible that not many years hence the prognosis in generalized tuberculosis may be found fairly hopeful in an increasing percentage of cases.

Marlow states that the number of cases cited is not imposing, but that it need only be pointed out that the character of the disease is indefinite, as are the general opinions regarding it. Suggestive physical signs are rarely found; the story is vague; and the medical profession is educated to the belief in the invariable fatality of the condition. The following is a summary of the cases Marlow found in the literature. A number of these are probably not true miliary tuberculosis, although classed as such by the authors.

In 1860 Wunderlich reported a death from an intercurrent illness in a patient whose case had been diagnosed as miliary tuberculosis four months previously; autopsy confirmed the presence of the acid-fast infection. Six years later, Sick stated that he had found healed miliary tuberculosis in the lungs of a stonemason. As all the lesions were of the same size, he believed that they were probably not inhaled particles of stone. Burkhart mentioned instances of miliary tubercles in which the character of the tubercles furnished evidence that they had existed for a considerable time before death. In addition to these, Longscope, in a study of 19 cases of generalized tuberculosis, reported 8 that had a course sufficiently prolonged to be considered subacute or chronic. However, none of these cases lasted more than a year. Opie noted a case of healed miliary tuberculosis coming to autopsy as the result of *Streptococcus viridans* endocarditis. He concluded that although absolute proof of the nature of such lesions is impossible during life, in all probability they represent healed tuberculosis. He believed that miliary tuberculosis, contrary to the generally accepted opinion, occasionally takes on a chronic form and may heal with or without calcium deposit. Von Muralt reported two cases which eventually came to section as a result of meningeal involvement. In recent years the increased frequency of X-ray examination has brought to light more and more instances of miliary tuberculosis in persons not acutely ill. One of these cases was de-

scribed by Northrup in a paper presenting eight cases of generalized infection diagnosed by Röntgen examination as miliary tuberculosis. Similarly, cases have been reported by Kahn, Baer, Stivelman and Henneil, Blaine, Bierman, Kilngenstein, Pierson, Maendl, Wallgren, and Mason and Nather. Marlow calls attention to a few cases of particular interest, such as the case of Preston and Jeaffreson with its associated evidences of Mikulicz's disease. Middleton reported a case with coincident syphilis, but gave no comment upon the effect of antisyphilitic treatment. Kahn found typical radiographic evidence of miliary tuberculosis of the right lung only, and was able a year later to demonstrate tubercle bacilli in the sputum.

In a paper emphasizing the value of serial X-ray examinations of such patients Sante (3) reported two cases, one dying after an illness of seven months and the other after about three months' illness. In the first case radiographic examination revealed an extensive miliary tuberculosis of the lungs distributed in both lung fields. Autopsy revealed generalized miliary tuberculosis. X-ray examination of the second case revealed numerous small, soft infiltrations, uniformly distributed throughout both lungs, the typical picture of miliary tuberculosis. Sante remarks that every radiologist has encountered instances in which numerous minute shotlike calcareous deposits are seen in the lungs. Their symmetrical generalized distribution leads one to think that they may be due to healed lesions of miliary tuberculosis. A considerable number of such cases has been encountered and an effort has been made to ascertain the cause. The age of the patient does not seem to be a determining factor, according to Sante, as he encountered the condition twice in children 12 years old. That the condition does not represent any active disease was evidenced by serial radiographs taken of a patient showing this condition in which no change was noted in the calcareous deposits during a period of nearly a year.

Sante considers that while this condition has been regarded as healed tuberculosis lesions of a disseminated pulmonary type, there is no adequate reason why it might not represent a healed lesion of the generalized miliary type of tuberculosis. He had hoped that the chronic case he described, owing to the mildness of the symptoms, might prove to be of this type and that he would be able to obtain a complete series of examinations showing the course of the disease from the stage of first appearance of the tubercles to the stage of calcification. Only by such an observation will the true character of this condition be definitely established. Until this time he thought there was sufficient authority in the opinion of able pathologists and Röntgenologists for a provisional diagnosis of healed miliary tuberculosis.

Pierson (4) describes three cases. In one case the healing proceeded by absorption rather than by calcification. In a case lent to him by Dr. Eugene Kilgore the X ray showed a fine uniform mottling throughout the upper half or two-thirds of both lungs. A comparison film taken eight months later showed essentially the same condition, evidently quiescent. Six months later the patient's left kidney and epididymus were removed because of tuberculosis; otherwise he remained well. In the third case described by Pierson physical examination was negative except for the chest, which showed a few fine crepitant râles at the right apex and signs of cavity at left apex; X ray showed calcified nodules scattered throughout all five lobes. There was a cavity at the left apex. This last case, according to Pierson, showed the picture of a disseminated tuberculosis throughout the lungs, which healed by calcification, except for a cavity at the apex which may have existed before this disseminated condition took place. In fact, in adult life generalized miliary tuberculosis develops by the breaking through of some focus, frequently a cavity, into the blood-stream. Its arrest and healing in this case were due to there being present sufficient immunity to localize the disease. Whether or not any other organs became involved at that time and showed healed tubercles, he could not say, for it was not possible to make so extensive an examination.

Pierson calls attention to other cases of a diffuse tuberculosis in the lungs in which a blood or lymph borne infection appears quite possible, but these when localized in one or two lobes are more often due to the bronchopneumonic or contact method of implantation. The most common diseases to consider in differential diagnosis are diffuse bronchopneumonia, pneumonoconiosis, and coccidioidal granuloma. A short period of observation will rule out the first; and with a history of such occupational hazards as produce the second the diagnosis of miliary tuberculosis would be very unwise. Pneumonoconiosis, when associated with tuberculosis, practically always leads to the massive bronchopneumonic type. Coccidioidal granuloma generally breaks down and the microorganisms are found in the sputum.

Blaine (5) calls attention to the paucity of clinical symptoms, which he explains as due to the fact that in the phlegmatic individual it is difficult to elicit any history of an acute sickness in the ordinary sense, as he is prone to overlook or underestimate the importance of a period in which he did not feel well, his appetite was not up to normal or he seemed to lack his usual "pep" for a few days or a week or two, and he may have paid no attention to such a physical decline, and, following this uncertain period, recovered his former more or less normal condition. On the other hand, the high-strung, or neurotic, type of person most often recalls such a period in which he had to lie down or go to bed for a few days, later getting along all right, often

without recourse to the physician. In such cases one is less reluctant to believe that an acute miliary tuberculosis is a possibility. A rise in temperature may not be recognized by a person of the former group, who often have an increase of two or more degrees without realizing it, while the latter invariably know that they have fever. Headache, malaise, and the usual accompaniments of temperature increase are a part of the story of the more highly strung person, while the phlegmatic individual invariably fails to note such occurrences. Blaine mentions as one of the chief points in his observation that an active tuberculosis can be present in the intervening areas, but that, when these areas which lie between the individual dense shadows under discussion are of normal transparency to the Röntgen ray, it is safe to assume this particular tissue to be normal, especially if there be no clinical evidence of a pulmonary disease at the time of the Röntgen examination. He found a varying number of these lesions present in the different cases; in one case the multiple spots were so close together that very little of the lung field could be visualized, literally thousands of foci being evident; in another case, the foci were so far apart as to make it doubtful whether the case could be properly considered a disseminated miliary tuberculosis. He reminds us that the term "miliary" usually refers to the size of the tubercle, and that there may be but a very few of such miliary tubercles, or, on the other extreme, so many as to startle the observer when he views the case Röntgenologically. Here enters the probability of an involution of the majority of the tubercles, a few only undergoing calcification. The individual lesion, however, is in both instances substantially the same. While it is true that the calcified tubercle is not in itself a positive sign of a preceding active tuberculosis, Blaine thinks that the greater incidence makes the probability so great that we may assume such to be the case.

In a discussion of Blaine's paper, the consensus of opinion was that there is no proof that these lung findings represent healed miliary tuberculosis, but that after all this seems the most reasonable explanation. Several cases were reported with Röntgen findings closely resembling those seen in Doctor Blaine's cases. Doctor Pendergrass suggested the possibility that the miliary shadows are due to calcium metastasis in the lung, and Doctor Martin reported a case in which they were interpreted as calcified areas due to healed trichinosis.

Baldwin, Petroff, and Gardner (6) make the following statement in regard to "chronic miliary tuberculosis":

> As previously mentioned, tubercle bacilli must frequently be carried from the tracheo-bronchial or other lymph nodes, such as the mesenteric or cervical groups, to the great veins of the neck by the efferent lymphatic of these nodes, which discharge directly into the thoracic duct. Such a discharge is in the nature of an overflow; it is intermittent in character, and the number of bacilli is neces-

sarily small. They will be distributed by the venous blood to the capillaries of the lung where most of them are retained and may originate fresh, isolated foci of disease.

* * * Owing to the relative immunity of the tissues the small doses of bacilli originally disseminated do not immediately initiate progressive disease. Perhaps it may never occur, but as the result of trauma, intercurrent infection, or increased functional activity in a part, the small latent tubercle becomes inflamed and serves as a local source for more or less rapid extension by contiguity and by way of the organ duct system.

Although the Röntgen findings in the Picher cases are similar to those in miliary tuberculosis, the spots in these cases appear more uniform in shape and size, and are dense and shotlike in appearance. Assuming that the disease is miliary tuberculosis, the data indicate that the disease is far more common than thought to be at present, and that it may exist for years before appearance, symptoms, or physical signs develop sufficiently to make certain a clinical diagnosis. The data reveal relatively few cases with sufficient symptoms to cause the men to seek medical advice or to render them unfit to perform their usual work. Although the large number found in 18,000 men examined indicates that the disease is quite prevalent, the fact that no deaths from the disease have occurred in the group under observation for a period of from a few weeks to three years indicates that the death rate is low. If the disease is miliary tuberculosis, the data lead to the conclusion that an unfavorable prognosis in miliary tuberculosis should be made with caution.

*Pneumonoconiosis.*—The lead and zinc ores in this district occur in a hard flintlike rock, containing a high percentage of silica. The mining of these ores in some instances exposes the men to fine silica dust. The inhalation of this fine dust produces first degree silicosis in from 3 to 14 years, depending upon the occupation and atmospheric dustiness. The first few cases of the group under discussion were found in miners and, at first, it was thought that the condition was silicosis in an atypical form. As the work of examining the men progressed, the companies required all men entering their service to have a physical examination prior to employment or shortly thereafter. Many of the cases under discussion were found in men seeking employment or who had been employed underground for only a short time at most and, apparently, mining work could not have caused the condition found. The generally healthy appearance, occurrence of few or no symptoms, and the occasional and often contradictory physical signs found in this group of cases correspond closely to the findings in silicotics. The cardinal symptom in both groups of cases is dyspnea on exertion out of proportion to the physical signs, appearance, and symptoms.

The Röntgenograms of the two groups of cases are radically different. The pictures in silicosis show more decided lineal markings.

The bronchial tree in the early stages shows along its course small mottled areas, sometimes referred to as "bronchial budding." These areas tend to coalesce into larger irregular areas of increased density as the disease progresses, so that in the third stage there may be large irregular areas of marked density, usually located in the bases or mid-section of the lungs. In the group of cases under discussion, the spots are regular, fairly uniform, shotlike in density, and do not tend to coalesce. The difference in the Röntgenograms and the fact that the disease apparently occurs most often in men not associated with the mining industry and who have not been exposed to large amounts of silica dust lead to the conclusion that the disease is not due to the inhalation of silica dust.

*Calcium metastasis.*—The possibility of miliary calcification should also be considered. Sutherland (8) describes 38 cases selected from about 60,000 Röntgenographic examinations of the chest made in the Mayo clinic. The majority were from rural districts. The lesions he observed in the Röntgenograms were multiple, miliary, calcified spots, varying in size from a pin point to two or three microns; they were round, discrete, and sharp in outline, were distributed through both lung fields, were seldom seen above the first interspace, and were generally more numerous toward the base. In number they varied from 8 to 10 large spots to a shower of innumerable miliary particles.

In his discussion of these cases Sutherland considers whether or not the diseases known to exist were adequate cause of the metastasis, as a majority of the patients had some lesion that theoretically could have been an important etiologic factor. However, in the cases in which there were definite lesions of bone, the lesions were of a type and duration that made sufficient solution of calcium to cause the secondary lesion improbable, in the majority of instances. The fact that the majority of the patients came from rural districts in which the calcium content of the water was known to be high, suggested a cause; but again there were large numbers from the same district with similar lesions who did not show any evidence of calcium metastasis. He thinks there is little doubt that many of these primary lesions and to some extent the habitat are factors in the oversaturation of the blood with calcium salts; but to this must be added some metabolic anomaly causing a disbalance that favors the precipitation of the calcium salts from the blood. Sutherland questions whether the term "metastasis" is appropriate in cases in which there is no evidence that the calcium has been absorbed from other tissues.

In his discussion of differential diagnosis Sutherland states that calcifications of the pleura are commonly confined to one portion and the lesions manifested by fibrosis; that calcification in the region of the hilum, which is often encountered, is seldom discrete; that pneumonoconiosis in the diffuse form gives a much softer and more indistinct shadow than miliary calcification, with a tendency, as the con-

dition advances, to the formation of conglomerate shadows, usually in the middle third of the lung field and toward the periphery; and that tuberculosis generally has associated evidence of a lesion of the lung tissue, with areas of irregularly shaped calcifications varying greatly in size. He states that clinically there is no syndrome indicative of the anomaly and that we are dependent on the Röntgen ray for its discovery. He also mentions the rarity of the abnormality and its usual lack of symptoms or grave consequences.

From the above description by Sutherland the disease found at Picher is apparently the same. Sutherland was unable to come to a definite conclusion as to the exact etiology.

*Pneumomycosis.*—The disease may be a pneumomycosis. The data show that the condition under discussion is more common in farming than in other industries in the section of the country considered. All subjects except one were farmers, teamsters, feedmill workers, or residents of small agricultural towns where grain is marketed. Farmers are exposed to fungi in threshing wheat, baling hay, or handling various small grains. Cultures were made of the dust around one wheat thresher and abundant growths were obtained on each dish exposed. Four dishes were exposed in the separator, four in the wheat stacks, and two in the wagon hauling the grain. Each plate showed a growth of a fungus closely resembling the fungi isolated from the sputum of men with the disease. Apparently all the men working in the harvest fields do not contract the disease, since a large number of men examined who had had many years of experience around the harvest fields showed no evidence of it. It is well known that fungi may be found in the mouths of healthy people.

In an article on mold infections of the lung, Emerson (7) called attention to the value of making a complete examination of the sputum, as he thought that mold infections of the lungs, treated as tuberculosis, were by no means rare. In his summary of the literature, he stated that Bennet, in 1842, reported probably the first human case, and in 1856 Virchow demonstrated at the autopsy table the pulmonary lesion and the organism. Doctor Emerson stated that the endemic form is a primary infection due to the occupation of the patient. The earlier cases reported were of pigeon feeders, men who filled their mouths with grain, from which location the young pigeons would pick their food, and of hair combers, who used rye flour in cleaning the hair and worked in an atmosphere so full of infectious dust that a cat was the only animal that could survive in company with them.

According to Doctor Emerson, *Aspergillus fumigatus* may cause necrosis, inflammation, or suppuration, but in the last mentioned lesion very little liquid pus is formed. He divides cases of mold infection of the lungs into three groups: Simple bronchitis, chronic

interstitial pneumonia, and pseudotuberculosis with cavity formation. Patients with this chronic bronchitis may suffer for years and yet have little disturbance of general health. In one case reported by Osler the patient had for 12 years expectorated, at intervals of every few weeks, masses the shape and size of a bean which consisted entirely of the mould growth. Other cases of primary chronic membranous bronchitis, expectorated casts of the larger bronchi as long as 6 centimeters. In the second group the chronic bronchitis terminates in a chronic interstitial pneumonia. The symptoms are those of severe chronic diffuse bronchitis with harassing cough and considerable dyspnea, due to emphysema and pulmonary consolidation and the resulting contraction of the chest. The third group is that of cases of pseudotuberculosis, in which the symptoms and lesions resemble those of tuberculosis—pulmonary hemorrhage, digestive disturbances, fever, night sweats, emaciation, and death. The cavities may be the size of an apple.

The investigation at Picher, as well as the search of literature, has failed to reveal sufficient knowledge of this malady to warrant a statement that it is one of the four diseases mentioned, but the evidence is sufficient to conclude that the disease is more prevalent than it has been thought to be, and for this reason it is worthy of serious study.

## SUMMARY

1. About 125 cases of typical miliary lung disease are described as having been found by X-ray examination among 18,285 individuals during routine physical examination.

2. A majority of the cases did not have sufficient symptoms to cause them to stop work or to seek medical aid.

3. The most characteristic finding was a large number of discrete, dense, shot-like spots scattered over the lung areas.

4. Tubercle bacilli were present in only two of the 88 cases in which an examination was made of the sputum.

5. Unstained smears of 31 cases (all those examined) were positive for fungus.

6. Two types of fungi were identified—*Aspergillus fumigatus fisheri* and *Aspergillus niger*. Ten cases tested with antigen of *Aspergillus fumigatus fisheri* gave negative reaction; six cases tested with *Aspergillus niger* all gave positive reaction.

7. Thirty-eight cases reported by Sutherland as "miliary calcification of the lungs" are probably the same condition as found at Picher.

8. These miliary calcifications may be due primarily to fungous infection.

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## DEATHS DURING WEEK ENDED NOVEMBER 15, 1930

*Summary of information received by telegraph from industrial insurance companies for the week ended November 15, 1930, and corresponding week of 1929. (From the Weekly Health Index issued by the Bureau of the Census, Department of Commerce)*

| | Week ended Nov. 15, 1930 | Corresponding week, 1929 |
|---|---|---|
| Policies in force | 75, 288, 546 | 75, 088, 467 |
| Number of death claims | 13, 480 | 12, 992 |
| Death claims per 1,000 policies in force, annual rate | 9. 3 | 9. 0 |

*Deaths [1] from all causes in certain large cities of the United States during the week ended November 15, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929. (From the Weekly Health Index issued by the Bureau of the Census, Department of Commerce)*

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census. The rates are not exactly comparable with similar rates published in the Public Health Reports earlier than the issue of August 22, 1930, which were based upon estimates made before the 1930 census was taken]

| City | Week ended Nov. 15, 1930 | | | | Corresponding week 1929 | | Death rate [2] for first 46 weeks | |
|---|---|---|---|---|---|---|---|---|
| | Total deaths | Death rate [2] | Deaths under 1 year | Infant mortality rate [3] | Death rate [2] | Deaths under 1 year | 1930 | 1929 |
| Total (78 cities) | 8,037 | 12.1 | 747 | [4] 60 | 11.3 | 657 | 11.9 | 12.7 |
| Akron | 30 | 6.2 | 5 | 46 | 10.3 | 7 | 7.9 | 9.4 |
| Albany [5] | 38 | 15.5 | 6 | 124 | 15.7 | 2 | 14.8 | 16.4 |
| Atlanta | 49 | 9.5 | 5 | 51 | 12.5 | 8 | 15.7 | 16.0 |
| White | 31 | | 4 | 63 | | 4 | | |
| Colored | 18 | (6) | 1 | 29 | (6) | 4 | (6) | (6) |
| Baltimore [5] | 244 | 15.8 | 23 | 80 | 13.3 | 14 | 14.1 | 14.6 |
| White | 196 | | 14 | 62 | | 11 | | |
| Colored | 48 | (6) | 9 | 144 | (6) | 3 | (6) | (6) |
| Birmingham | 78 | 15.7 | 11 | 106 | 13.2 | 5 | 13.8 | 16.0 |
| White | 35 | | 5 | 79 | | 2 | | |
| Colored | 43 | (6) | 6 | 147 | (6) | 3 | (6) | (6) |
| Boston | 214 | 14.2 | 26 | 75 | 13.0 | 29 | 14.1 | 15.0 |
| Bridgeport | 25 | 8.9 | 1 | 17 | 10.6 | 4 | 10.9 | 12.0 |
| Buffalo | 143 | 13.0 | 13 | 58 | 12.8 | 11 | 12.9 | 14.1 |
| Cambridge | 26 | 11.9 | 2 | 40 | 10.6 | 0 | 11.8 | 12.5 |
| Camden | 30 | 13.3 | 1 | 18 | 13.8 | 4 | 13.7 | 14.5 |
| Canton | 12 | 5.9 | 5 | 133 | 7.0 | 1 | 9.9 | 11.2 |
| Chicago [5] | 731 | 11.2 | 70 | 62 | 10.3 | 55 | 10.4 | 11.3 |
| Cincinnati | 166 | 19.2 | 11 | 65 | 13.7 | 6 | 15.7 | 17.0 |
| Cleveland | 168 | 9.7 | 15 | 45 | 9.4 | 18 | 11.0 | 12.4 |
| Columbus | 90 | 16.2 | 6 | 59 | 11.7 | 7 | 15.6 | 14.8 |
| Dallas | 65 | 12.9 | 8 | | 10.3 | 8 | 11.5 | 11.4 |
| White | 54 | | 6 | | | 8 | | |
| Colored | 11 | (6) | 2 | | (6) | 0 | (6) | (6) |
| Dayton | 50 | 12.9 | 7 | 105 | 10.6 | 3 | 10.8 | 11.5 |
| Denver | 96 | 17.4 | 14 | 153 | 13.0 | 3 | 14.9 | 14.8 |
| Des Moines | 29 | 10.6 | 1 | 18 | 11.1 | 2 | 11.7 | 11.5 |
| Detroit | 292 | 9.6 | 30 | 46 | 9.2 | 37 | 9.3 | 11.1 |
| Duluth | 25 | 12.9 | 2 | 54 | 10.8 | 3 | 11.5 | 11.5 |
| El Paso | 22 | 11.2 | 4 | | 19.2 | 7 | 17.1 | 19.6 |
| Erie | 16 | 7.2 | 1 | 22 | 11.3 | 4 | 11.1 | 12.1 |
| Fall River [5] [7] | 24 | 10.9 | 0 | 0 | 13.2 | 3 | 11.8 | 13.6 |
| Flint | 21 | 6.9 | 6 | 71 | 8.6 | 2 | 9.2 | 10.7 |
| Fort Worth | 27 | 8.7 | 2 | | 17.0 | 4 | 11.0 | 12.3 |
| White | 22 | | 1 | | | 4 | | |
| Colored | 5 | (6) | 1 | | (6) | 0 | (6) | (6) |
| Grand Rapids | 32 | 9.9 | 2 | 30 | 15.0 | 5 | 10.2 | 10.3 |
| Houston | 83 | 14.8 | 7 | | 10.0 | 4 | 12.2 | 12.6 |
| White | 48 | | 5 | | | 4 | | |
| Colored | 35 | (6) | 2 | | (6) | 0 | (6) | (6) |
| Indianapolis | 95 | 13.6 | 9 | 68 | 14.6 | 3 | 14.5 | 14.7 |
| White | 80 | | 5 | 43 | | 2 | | |
| Colored | 15 | (6) | 4 | 233 | (6) | 1 | (6) | (6) |
| Jersey City | 83 | 13.7 | 6 | 52 | 9.6 | 6 | 11.4 | 12.5 |
| Kansas City, Kans | 30 | 12.8 | 4 | 93 | 9.0 | 4 | 11.7 | 12.9 |
| White | 18 | | 3 | 83 | | 4 | | |
| Colored | 12 | (6) | 1 | 152 | (6) | 0 | (6) | (6) |
| Kansas City, Mo | 97 | 12.8 | 9 | 75 | 11.6 | 6 | 13.5 | 13.9 |
| Knoxville | 40 | 19.6 | 3 | 70 | 12.6 | 6 | 13.6 | 14.0 |
| White | 31 | | 3 | 78 | | 5 | | |
| Colored | 9 | (6) | 0 | 0 | (6) | 1 | (6) | (6) |
| Los Angeles | 267 | 11.2 | 23 | 70 | 10.9 | 19 | 11.1 | 11.3 |
| Louisville | 86 | 14.6 | 9 | 77 | 11.2 | 4 | 13.6 | 15.2 |
| White | 65 | | 9 | 89 | | 3 | | |
| Colored | 21 | (6) | 0 | 0 | (6) | 1 | (6) | (6) |
| Lowell [7] | 28 | 14.6 | 3 | 79 | 16.5 | 3 | 13.5 | 14.1 |
| Lynn | 24 | 12.2 | 1 | 28 | 7.7 | 0 | 10.4 | 11.2 |
| Memphis | 90 | 18.6 | 9 | 106 | 16.3 | 3 | 17.1 | 18.9 |
| White | 46 | | 4 | 72 | | 2 | | |
| Colored | 44 | (6) | 5 | 168 | (6) | 1 | (6) | (6) |
| Milwaukee | 85 | 7.8 | 7 | 31 | 8.5 | 14 | 9.8 | 11.0 |
| Minneapolis | 88 | 9.9 | 18 | 118 | 12.1 | 7 | 10.7 | 10.8 |

See footnotes at end of table.

*Deaths [1] from all causes in certain large cities of the United States during the week ended November 15, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929*—Continued

| City | Week ended Nov. 15, 1930 | | | | Corresponding week 1929 | | Death rate [2] for first 46 weeks | |
|---|---|---|---|---|---|---|---|---|
| | Total deaths | Death rate [2] | Deaths under 1 year | Infant mortality rate [3] | Death rate [3] | Deaths under 1 year | 1930 | 1929 |
| Nashville | 37 | 13.1 | 4 | 63 | 15.6 | 6 | 17.3 | 18.7 |
| White | 24 | | 3 | 63 | | 5 | | |
| Colored | 13 | (5) | 1 | 62 | (5) | 1 | (5) | (5) |
| New Bedford [7] | 23 | 10.6 | 3 | 77 | 11.5 | 1 | 10.9 | 12.1 |
| New Haven | 46 | 14.7 | 3 | 46 | 9.9 | 1 | 12.8 | 13.5 |
| New Orleans | 159 | 18.1 | 14 | 78 | 15.5 | 13 | 17.5 | 17.6 |
| White | 93 | | 6 | 51 | | 9 | | |
| Colored | 66 | (5) | 8 | 130 | (5) | 4 | (5) | (5) |
| New York | 1,422 | 10.6 | 118 | 50 | 10.1 | 106 | 10.7 | 11.3 |
| Bronx Borough | 185 | 7.5 | 7 | 20 | 6.7 | 14 | 7.9 | 8.2 |
| Brooklyn Borough | 482 | 9.6 | 48 | 50 | 9.6 | 47 | 9.7 | 10.2 |
| Manhattan Borough | 562 | 15.8 | 47 | 60 | 14.7 | 32 | 16.1 | 16.4 |
| Queens Borough | 161 | 7.7 | 14 | 56 | 6.9 | 10 | 7.1 | 7.6 |
| Richmond Borough | 32 | 10.5 | 2 | 39 | 12.8 | 3 | 14.1 | 15.9 |
| Newark, N. J | 125 | 14.7 | 18 | 94 | 10.6 | 7 | 12.0 | 12.7 |
| Oakland | 53 | 9.7 | 3 | 37 | 8.4 | 2 | 10.9 | 11.2 |
| Oklahoma City | 36 | 10.1 | 5 | 90 | 13.9 | 4 | 10.8 | 10.8 |
| Omaha | 54 | 13.1 | 5 | 61 | 11.8 | 4 | 13.5 | 13.5 |
| Paterson | 21 | 7.9 | 4 | 70 | 6.4 | 2 | 12.1 | 13.2 |
| Philadelphia | 495 | 13.1 | 48 | 71 | 11.5 | 39 | 12.5 | 13.1 |
| Pittsburgh | 189 | 14.7 | 13 | 46 | 13.2 | 14 | 13.8 | 14.8 |
| Portland, Oreg | 82 | 14.2 | 2 | 25 | 12.5 | 5 | 12.3 | 12.8 |
| Providence | 66 | 13.7 | 4 | 37 | 12.9 | 6 | 13.0 | 14.5 |
| Richmond | 58 | 16.5 | 4 | 58 | 18.9 | 5 | 14.9 | 16.4 |
| White | 36 | | 3 | 66 | | 3 | | |
| Colored | 22 | (5) | 1 | 43 | (5) | 2 | (5) | (5) |
| Rochester | 94 | 15.0 | 10 | 89 | 10.7 | 7 | 11.8 | 12.3 |
| St. Louis | 183 | 11.6 | 13 | 45 | 14.3 | 20 | 14.1 | 14.6 |
| St. Paul | 58 | 11.1 | 5 | 51 | 8.7 | 4 | 10.1 | 10.4 |
| Salt Lake City [4] | 47 | 17.4 | 9 | 143 | 13.2 | 1 | 12.5 | 13.0 |
| San Antonio | 50 | 10.2 | 6 | | 10.3 | 3 | 14.5 | 14.4 |
| San Diego | 37 | 12.9 | 1 | 21 | 13.1 | 6 | 14.3 | 15.1 |
| San Francisco | 128 | 10.6 | 2 | 14 | 12.9 | 4 | 13.1 | 13.0 |
| Schenectady | 23 | 12.5 | 4 | 123 | 12.0 | 1 | 11.2 | 12.2 |
| Seattle | 82 | 11.7 | 4 | 40 | 12.3 | 6 | 10.9 | 11.2 |
| Somerville | 26 | 13.1 | 3 | 95 | 8.1 | 2 | 9.8 | 9.2 |
| Spokane | 26 | 11.7 | 2 | 52 | 13.1 | 2 | 12.5 | 12.7 |
| Springfield, Mass | 37 | 12.8 | 2 | 34 | 8.4 | 4 | 12.1 | 12.6 |
| Syracuse | 40 | 10.0 | 5 | 62 | 7.9 | 5 | 11.7 | 12.9 |
| Tacoma | 32 | 15.6 | 1 | 27 | 10.8 | 3 | 12.6 | 11.8 |
| Toledo | 84 | 15.0 | 11 | 101 | 13.9 | 11 | 12.7 | 13.7 |
| Trenton | 27 | 11.5 | 6 | 115 | 19.6 | 6 | 16.6 | 17.1 |
| Utica | 25 | 12.7 | 0 | 0 | 12.2 | 1 | 14.7 | 15.5 |
| Washington, D. C | 160 | 17.1 | 11 | 64 | 13.6 | 14 | 15.2 | 15.4 |
| White | 102 | | 5 | 44 | | 6 | | |
| Colored | 58 | (5) | 6 | 107 | (5) | 8 | (5) | (5) |
| Waterbury | 17 | 8.7 | 1 | 24 | 7.8 | 1 | 9.3 | 9.5 |
| Wilmington, Del. [7] | 41 | 20.4 | 5 | 121 | 13.9 | 1 | 14.6 | 13.9 |
| Worcester | 54 | 14.3 | 6 | 83 | 8.5 | 3 | 12.6 | 12.6 |
| Yonkers | 16 | 6.1 | 3 | 71 | 10.2 | 2 | 8.0 | 9.3 |
| Youngstown | 45 | 13.8 | 4 | 57 | 7.5 | 4 | 10.3 | 12.2 |

[1] Deaths of nonresidents are included. Stillbirths are excluded.

[2] These rates represent annual rates per 1,000 population, as estimated for 1930 and 1929 by the arithmetical method.

[3] Deaths under 1 year of age per 1,000 live births. Cities left blank are not in the registration area for births.

[4] Data for 73 cities.

[5] Deaths for week ended Friday.

[6] For the cities for which deaths are shown by color the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

[7] Population Apr. 1, 1930; decreased 1920 to 1930; no estimate made.

# PREVALENCE OF DISEASE

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

**Reports for Weeks Ended November 22, 1930, and November 23, 1929**

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 22, 1930, and November 23, 1929*

| Division and State | Diphtheria | | Influenza | | Measles | | Meningococcus meningitis | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 |
| **New England States:** | | | | | | | | |
| Maine | 5 | 4 | ---- | 2 | 20 | 1 | 0 | 2 |
| New Hampshire | 7 | 9 | ---- | ---- | ---- | 19 | 0 | 0 |
| Vermont | 2 | 3 | ---- | ---- | 1 | 7 | 0 | 0 |
| Massachusetts | 74 | 112 | 6 | 5 | 161 | 110 | 1 | 4 |
| Rhode Island | 12 | 22 | 1 | 5 | 1 | 1 | 0 | 0 |
| Connecticut | 21 | 20 | 3 | 2 | 91 | 4 | 2 | 0 |
| **Middle Atlantic States:** | | | | | | | | |
| New York | 93 | 202 | [1] 14 | [1] 12 | 192 | 154 | 5 | 21 |
| New Jersey | 65 | 148 | 12 | 9 | 130 | 36 | 4 | 6 |
| Pennsylvania | 152 | 284 | ---- | ---- | 268 | 455 | 3 | 10 |
| **East North Central States:** | | | | | | | | |
| Ohio | 49 | 66 | 3 | 10 | 15 | 265 | 2 | 5 |
| Indiana | 61 | 37 | 11 | ---- | 121 | 13 | 0 | 2 |
| Illinois | 190 | 239 | 9 | 48 | 146 | 270 | 4 | 9 |
| Michigan | 188 | 34 | 5 | 3 | 44 | 146 | 8 | 19 |
| Wisconsin | 27 | 19 | 36 | 16 | 182 | 458 | 0 | 3 |
| **West North Central States:** | | | | | | | | |
| Minnesota | 24 | 29 | ---- | ---- | 10 | 96 | 2 | 0 |
| Iowa | 19 | 17 | ---- | ---- | 4 | 83 | 0 | 0 |
| Missouri | 61 | 66 | 8 | 17 | 393 | 39 | 6 | 7 |
| North Dakota | 2 | 5 | ---- | ---- | 3 | 9 | 1 | 0 |
| South Dakota | 6 | 2 | ---- | ---- | 1 | 3 | 0 | 0 |
| Nebraska | 9 | 30 | 8 | 4 | 12 | 39 | 3 | 1 |
| Kansas | 15 | 30 | 1 | ---- | 7 | 66 | 3 | 3 |
| **South Atlantic States:** | | | | | | | | |
| Delaware | 5 | 4 | ---- | ---- | 1 | ---- | 0 | 0 |
| Maryland [2] | 35 | 34 | 17 | 10 | 12 | 13 | 0 | 1 |
| District of Columbia | 15 | 10 | 3 | 1 | 6 | 2 | 1 | 2 |
| Virginia | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 |
| West Virginia | 25 | 47 | 23 | 19 | 18 | 18 | 0 | 4 |
| North Carolina | 101 | 148 | 10 | 14 | 12 | 9 | 2 | 2 |
| South Carolina | 47 | 41 | 550 | 689 | ---- | ---- | 5 | 0 |
| Georgia | 15 | 13 | 72 | 61 | 10 | ---- | 1 | 0 |
| Florida | 27 | 14 | 2 | 3 | 18 | 3 | 0 | 0 |
| **East South Central States:** | | | | | | | | |
| Kentucky | 22 | 26 | ---- | ---- | ---- | ---- | 1 | 2 |
| Tennessee | 72 | 33 | 11 | 58 | 21 | 9 | 4 | 5 |
| Alabama | 87 | 87 | 55 | 25 | 53 | 10 | 4 | 1 |
| Mississippi | 64 | 61 | ---- | ---- | ---- | ---- | 2 | 0 |
| **West South Central States:** | | | | | | | | |
| Arkansas | 18 | 12 | 32 | 22 | ---- | 3 | 1 | 0 |
| Louisiana | 46 | 46 | 12 | 6 | 2 | 4 | 4 | 1 |
| Oklahoma [3] | 69 | 113 | 47 | 84 | 38 | 8 | 1 | 3 |
| Texas | 67 | 123 | 12 | 132 | 26 | 4 | 0 | 1 |

[1] New York City only.
[2] Week ended Friday.
[3] Figures for 1930 are exclusive of Oklahoma City and Tulsa.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 22, 1930, and November 23, 1929*—Continued

| Division and State | Diphtheria | | Influenza | | Measles | | Meningococcus meningitis | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 |
| Mountain States: | | | | | | | | |
| Montana | 7 | | | | 1 | 52 | 0 | 2 |
| Idaho | | | | | 6 | 88 | 1 | 0 |
| Wyoming | | 2 | | | | 2 | 0 | 0 |
| Colorado | 20 | 11 | | 1 | 48 | 5 | 2 | 2 |
| New Mexico | 6 | 8 | | | 16 | | 2 | 2 |
| Arizona | 4 | 14 | | 2 | 34 | 1 | 1 | 3 |
| Utah [1] | 2 | 2 | 7 | | | 9 | 3 | 2 |
| Pacific States: | | | | | | | | |
| Washington | 32 | 9 | | 2 | 33 | 18 | 0 | 1 |
| Oregon | 5 | 17 | 13 | 35 | 57 | 16 | 0 | 3 |
| California | 66 | 97 | 31 | 38 | 117 | 134 | 5 | 9 |

| Division and State | Poliomyelitis | | Scarlet fever | | Smallpox | | Typhoid fever | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 |
| New England States: | | | | | | | | |
| Maine | 3 | 0 | 17 | 27 | 0 | 0 | 17 | 5 |
| New Hampshire | 0 | 0 | 4 | 17 | 0 | 0 | 0 | 1 |
| Vermont | 0 | 0 | 13 | 17 | 1 | 5 | 0 | 0 |
| Massachusetts | 9 | 6 | 172 | 188 | 0 | 0 | 11 | 3 |
| Rhode Island | 0 | 0 | 6 | 21 | 0 | 0 | 3 | 0 |
| Connecticut | 1 | 0 | 38 | 45 | 0 | 0 | 4 | 7 |
| Middle Atlantic States: | | | | | | | | |
| New York | 11 | 8 | 409 | 289 | 25 | 34 | 33 | 31 |
| New Jersey | 0 | 1 | 144 | 148 | 0 | 0 | 8 | 6 |
| Pennsylvania | 5 | 5 | 520 | 414 | 1 | 0 | 40 | 26 |
| East North Central States: | | | | | | | | |
| Ohio | 18 | 8 | 351 | 206 | 55 | 112 | 38 | 14 |
| Indiana | 2 | 0 | 204 | 101 | 73 | 163 | 4 | 2 |
| Illinois | 6 | 0 | 326 | 491 | 36 | 172 | 32 | 15 |
| Michigan | 4 | 3 | 210 | 213 | 41 | 79 | 15 | 4 |
| Wisconsin | 5 | 0 | 172 | 88 | 9 | 24 | 5 | 9 |
| West North Central States: | | | | | | | | |
| Minnesota | 8 | 0 | 75 | 119 | 8 | 4 | 7 | 5 |
| Iowa | 14 | 2 | 50 | 57 | 13 | 63 | 5 | 40 |
| Missouri | 9 | 0 | 88 | 122 | 12 | 19 | 21 | 4 |
| North Dakota | 1 | 0 | 17 | 16 | 5 | 7 | 1 | 0 |
| South Dakota | 4 | 0 | 10 | 5 | 6 | 24 | 2 | 0 |
| Nebraska | 15 | 0 | 33 | 37 | 12 | 55 | 1 | 1 |
| Kansas | 10 | 0 | 47 | 61 | 24 | 41 | 7 | 5 |
| South Atlantic States: | | | | | | | | |
| Delaware | 0 | 0 | 13 | 2 | 0 | 0 | 4 | 0 |
| Maryland [1] | 3 | 1 | 82 | 84 | 0 | 0 | 30 | 13 |
| District of Columbia | 0 | 0 | 37 | 13 | 0 | 0 | 1 | 2 |
| Virginia | | 3 | | | | | | |
| West Virginia | 2 | 2 | 63 | 77 | 32 | 27 | 28 | 12 |
| North Carolina | 0 | 2 | 120 | 107 | 0 | 4 | 6 | 8 |
| South Carolina | 2 | 3 | 23 | 35 | 1 | 2 | 24 | 12 |
| Georgia | 0 | 1 | 35 | 36 | 0 | 0 | 18 | 6 |
| Florida | 0 | 0 | 7 | 6 | 1 | 1 | 1 | 1 |
| East South Central States: | | | | | | | | |
| Kentucky | 1 | 0 | 71 | 51 | 0 | 10 | 16 | 4 |
| Tennessee | 0 | 0 | 53 | 45 | 2 | 28 | 15 | 13 |
| Alabama | 2 | 0 | 112 | 44 | 0 | 3 | 8 | 14 |
| Mississippi | 0 | 0 | 39 | 27 | 0 | 0 | 18 | 12 |
| West South Central States: | | | | | | | | |
| Arkansas | 2 | 0 | 30 | 35 | 3 | 10 | 25 | 12 |
| Louisiana | 3 | 0 | 15 | 20 | 5 | 2 | 25 | 12 |
| Oklahoma [2] | 2 | 2 | 65 | 84 | 5 | 12 | 19 | 26 |
| Texas | 7 | 0 | 41 | 34 | 3 | 15 | 32 | 10 |

[1] Week ended Friday.

[2] Figures for 1930 are exclusive of Oklahoma City and Tulsa.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 22, 1930, and November 23, 1929*—Continued

| Division and State | Poliomyelitis | | Scarlet fever | | Smallpox | | Typhoid fever | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 | Week ended Nov. 22, 1930 | Week ended Nov. 23, 1929 |
| Mountain States: | | | | | | | | |
| Montana | 0 | 1 | 22 | 28 | 6 | 11 | 1 | 4 |
| Idaho | 0 | 0 | 4 | 13 | 0 | 2 | 1 | 0 |
| Wyoming | 4 | 0 | 9 | 4 | 0 | 10 | 0 | 0 |
| Colorado | 1 | 1 | 27 | 18 | 7 | 18 | 10 | 9 |
| New Mexico | 3 | 0 | 3 | 11 | 0 | 0 | 5 | 5 |
| Arizona | 1 | 0 | 5 | 5 | 0 | 1 | 0 | 3 |
| Utah [1] | 0 | 0 | 5 | 15 | 0 | 0 | 1 | 0 |
| Pacific States: | | | | | | | | |
| Washington | 1 | 1 | 44 | 65 | 30 | 74 | 5 | 9 |
| Oregon | 1 | 1 | 18 | 28 | 15 | 11 | 8 | 3 |
| California | 24 | 3 | 94 | 270 | 18 | 52 | 10 | 10 |

[1] Week ended Friday.

## SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

| State | Meningococcus meningitis | Diphtheria | Influenza | Malaria | Measles | Pellagra | Poliomyelitis | Scarlet fever | Smallpox | Typhoid fever |
|---|---|---|---|---|---|---|---|---|---|---|
| *September, 1930* | | | | | | | | | | |
| Hawaii Territory | 3 | 19 | 14 | ---- | 5 | ---- | 2 | 5 | 0 | 21 |
| *October, 1930* | | | | | | | | | | |
| Alabama | 8 | 261 | 73 | 579 | 97 | 30 | 10 | 233 | 0 | 106 |
| Idaho | 1 | 2 | ---- | ---- | 31 | ---- | 5 | 26 | 2 | 13 |
| Illinois | 25 | 579 | 72 | 25 | 118 | ---- | 101 | 897 | 84 | 146 |
| Louisiana | 5 | 85 | 18 | 53 | 7 | 33 | 12 | 51 | 1 | 81 |
| Maine | 1 | 10 | 15 | ---- | 13 | ---- | 55 | 64 | 0 | 27 |
| Maryland | 1 | 139 | 31 | 1 | 13 | 3 | 14 | 182 | 0 | 174 |
| Massachusetts | 8 | 302 | 11 | 2 | 339 | 1 | 170 | 436 | 0 | 34 |
| Minnesota | 5 | 73 | 1 | ---- | 32 | ---- | 103 | 143 | 32 | 20 |
| Missouri | 15 | 185 | 5 | 14 | 213 | ---- | 90 | 205 | 43 | 120 |
| New Mexico | 4 | 37 | 2 | 48 | 29 | 3 | 4 | 28 | 1 | 75 |
| North Carolina | 6 | 810 | 39 | ---- | 20 | 240 | 1 | 569 | 4 | 88 |
| Pennsylvania | 21 | 483 | ---- | ---- | 396 | 3 | 46 | 994 | 4 | 271 |
| Rhode Island | 1 | 61 | ---- | ---- | 1 | ---- | 6 | 39 | ---- | 19 |
| Vermont | ---- | 7 | ---- | ---- | 10 | ---- | 9 | 31 | 1 | 3 |
| West Virginia | 1 | 123 | 58 | ---- | 85 | ---- | 18 | 200 | 18 | 176 |

*September, 1930*

| Hawaii Territory: | Cases |
|---|---|
| Chicken pox | 5 |
| Conjunctivitis, follicular | 23 |
| Impetigo contagiosa | 53 |
| Leprosy | 6 |
| Mumps | 9 |
| Tetanus | 2 |
| Trachoma | 2 |
| Whooping cough | 4 |

*October, 1930*

| Actinomycosis: | Cases |
|---|---|
| Illinois | 1 |
| Massachusetts | 1 |
| Anthrax: | |
| Louisiana | 1 |
| Maryland | 1 |
| Chicken pox: | |
| Alabama | 7 |
| Idaho | 25 |

| Chicken pox—Continued. | Cases |
|---|---|
| Illinois | 911 |
| Louisiana | 7 |
| Maine | 80 |
| Maryland | 93 |
| Massachusetts | 486 |
| Minnesota | 365 |
| Missouri | 91 |
| New Mexico | 38 |
| North Carolina | 129 |
| Pennsylvania | 958 |
| Rhode Island | 41 |
| Vermont | 95 |
| West Virginia | 31 |
| Conjunctivitis: | |
| New Mexico | 2 |
| Dengue: | |
| Alabama | 1 |
| Diarrhea: | |
| Maryland | 54 |
| Dysentery: | |
| Illinois | 61 |
| Illinois (amebic) | 3 |
| Illinois (bacillary) | 5 |
| Louisiana | 10 |
| Maryland | 41 |
| Massachusetts | 2 |
| Minnesota | 11 |
| Minnesota (amebic) | 4 |
| German measles: | |
| Illinois | 15 |
| Maine | 3 |
| Maryland | 6 |
| Massachusetts | 41 |
| North Carolina | 15 |
| Pennsylvania | 30 |
| Rhode Island | 1 |
| Hookworm disease: | |
| Louisiana | 43 |
| Impetigo contagiosa: | |
| Maryland | 22 |
| Lead poisoning: | |
| Illinois | 3 |
| Massachusetts | 2 |
| Leprosy: | |
| Louisiana | 2 |
| Maryland | 1 |
| Lethargic encephalitis: | |
| Illinois | 15 |
| Louisiana | 4 |
| Maine | 2 |
| Massachusetts | 1 |
| Minnesota | 2 |
| Pennsylvania | 4 |
| Mumps: | |
| Alabama | 14 |
| Idaho | 4 |
| Illinois | 424 |
| Louisiana | 3 |
| Maine | 79 |
| Maryland | 18 |
| Massachusetts | 99 |
| Missouri | 19 |
| New Mexico | 9 |
| Pennsylvania | 324 |
| Rhode Island | 10 |
| Vermont | 4 |

| Ophthalmia neonatorum: | Cases |
|---|---|
| Illinois | 42 |
| Maryland | 2 |
| Massachusetts | 88 |
| Missouri | 2 |
| North Carolina | 2 |
| Pennsylvania | 14 |
| Rhode Island | 2 |
| Paratyphoid fever: | |
| Idaho | 2 |
| Illinois | 2 |
| Louisiana | 1 |
| Maine | 1 |
| Puerperal septicemia: | |
| Illinois | 4 |
| Pennsylvania | 23 |
| Rabies in animals: | |
| Illinois | 2 |
| Louisiana | 9 |
| Maryland | 5 |
| Missouri | 3 |
| Rhode Island | 1 |
| Rabies in man: | |
| Massachusetts | 1 |
| Pennsylvania | 1 |
| Scabies: | |
| Maryland | 2 |
| Septic sore throat: | |
| Illinois | 10 |
| Louisiana | 2 |
| Maryland | 6 |
| Massachusetts | 6 |
| Missouri | 28 |
| North Carolina | 19 |
| Tetanus: | |
| Illinois | 19 |
| Louisiana | 3 |
| Maryland | 4 |
| Missouri | 1 |
| Pennsylvania | 6 |
| Trachoma: | |
| Illinois | 10 |
| Massachusetts | 3 |
| Missouri | 108 |
| Pennsylvania | 4 |
| Trichinosis: | |
| Massachusetts | 1 |
| Tularaemia: | |
| Idaho | 2 |
| Louisiana | 1 |
| Missouri | 1 |
| Typhus fever: | |
| Alabama | 10 |
| Maryland | 2 |
| North Carolina | 1 |
| Undulant fever: | |
| Alabama | 2 |
| Idaho | 2 |
| Illinois | 4 |
| Louisiana | 2 |
| Minnesota | 8 |
| Missouri | 6 |
| Pennsylvania | 3 |
| Vermont | 2 |
| Vincent's angina: | |
| Idaho | 1 |
| Illinois | 1 |

| Vincent's angina—Continued. | Cases |
|---|---|
| Maine | 6 |
| Maryland | 3 |
| Rhode Island | 1 |
| Whooping cough: | |
| Alabama | 56 |
| Idaho | 21 |
| Illinois | 548 |
| Louisiana | 25 |
| Maine | 220 |
| Maryland | 141 |
| Massachusetts | 304 |
| Minnesota | 85 |
| Missouri | 71 |
| New Mexico | 9 |
| North Carolina | 238 |
| Pennsylvania | 538 |
| Rhode Island | 39 |
| Vermont | 140 |
| West Virginia | 73 |

## RECIPROCAL NOTIFICATIONS

*Notifications regarding communicable diseases sent during the month of October, 1930, by departments of health of certain States to other State health departments*

| Disease | California | Connecticut | Illinois | Kansas | Massachusetts | Minnesota | New York | Oregon | South Dakota |
|---|---|---|---|---|---|---|---|---|---|
| Dysentery [1] | | | | | | 1 | | | |
| Gonorrhea | | | | | 1 | 2 | | | |
| Malaria | | | | | | | 1 | | |
| Meningitis [2] | | 1 | | | | | | | |
| Poliomyelitis | | 4 | | | | 4 | 1 | | 13 |
| Syphilis | | | | [3] 11 | | 2 | | | |
| Tuberculosis | 1 | | 8 | | | 55 | | 1 | |
| Tularaemia | | | | | | 1 | | | |
| Typhoid fever | | 1 | 2 | | 4 | 4 | 4 | | |
| Undulant fever | | | | | | 1 | 5 | | |

[1] Bacillary. [2] Meningococcus. [3] Four cases in United States Penitentiary included.

## GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 32,165,000. The estimated population of the 91 cities reporting deaths is more than 30,570,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

*Weeks ended November 15, 1930, and November 16, 1929*

| | 1930 | 1929 | Estimated expectancy |
|---|---|---|---|
| *Cases reported* | | | |
| Diphtheria: | | | |
| 45 States | 1,733 | 2,546 | |
| 98 cities | 563 | 966 | 1,150 |
| Measles: | | | |
| 45 States | 1,773 | 1,994 | |
| 98 cities | 573 | 341 | |
| Meningococcus meningitis: | | | |
| 46 States | 96 | 125 | |
| 98 cities | 34 | 63 | |
| Poliomyelitis: | | | |
| 46 States | 268 | 63 | |
| Scarlet fever: | | | |
| 46 States | 3,670 | 3,699 | |
| 98 cities | 1,179 | 1,247 | 978 |
| Smallpox: | | | |
| 45 States | 355 | 906 | |
| 98 cities | 25 | 82 | 18 |
| Typhoid fever: | | | |
| 46 States | 575 | 362 | |
| 98 cities | 95 | 47 | 61 |
| *Deaths reported* | | | |
| Influenza and pneumonia: | | | |
| 91 cities | 747 | 618 | |
| Smallpox: | | | |
| 91 cities | 0 | 0 | |

## *City reports for week ended November 15, 1930*

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include serveral epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded, and the estimated expectancy is the mean number of cases reported for the week during nonepedemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible but no year earlier than 1921 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

| Division, State, and City | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---|---|---|---|---|---|---|---|---|
| | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| **NEW ENGLAND** | | | | | | | | |
| Maine: | | | | | | | | |
| Portland | 2 | 1 | 0 | | 0 | 1 | 0 | 3 |
| New Hampshire: | | | | | | | | |
| Concord | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| Nashua | 0 | 0 | 4 | | 0 | 0 | 0 | 0 |
| Vermont: | | | | | | | | |
| Barre | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| Burlington | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| Massachusetts: | | | | | | | | |
| Boston | 49 | 32 | 24 | | 1 | 31 | 3 | 27 |
| Fall River | 11 | 4 | 1 | | 1 | 0 | 0 | 0 |
| Springfield | 15 | 5 | 2 | | 0 | 1 | 0 | 1 |
| Worcester | 15 | 5 | 1 | | 0 | 0 | 0 | 2 |
| Rhode Island: | | | | | | | | |
| Pawtucket | 4 | 1 | 2 | | 0 | 0 | 0 | 1 |
| Providence | 9 | 10 | 2 | | 0 | 0 | 0 | 2 |
| Connecticut: | | | | | | | | |
| Bridgeport | 3 | 6 | 0 | | 0 | 0 | 0 | 3 |
| Hartford | 3 | 5 | 2 | | 0 | 27 | 0 | 3 |
| New Haven | 5 | 1 | 0 | | 0 | 11 | 6 | 5 |
| **MIDDLE ATLANTIC** | | | | | | | | |
| New York: | | | | | | | | |
| Buffalo | 31 | 17 | 7 | | 0 | 31 | 16 | 26 |
| New York | 144 | 161 | 52 | 25 | 14 | 57 | 28 | 140 |
| Rochester | 10 | 5 | 1 | | 0 | 1 | 1 | 8 |
| Syracuse | 22 | 3 | 0 | | 0 | 1 | 0 | 2 |
| New Jersey: | | | | | | | | |
| Camden | 4 | 8 | 3 | | 0 | 20 | 9 | 1 |
| Newark | 12 | 17 | 11 | 1 | 0 | 6 | 6 | 14 |
| Trenton | 1 | 4 | 0 | | 0 | 0 | 0 | 7 |
| Pennsylvania: | | | | | | | | |
| Philadelphia | 97 | 70 | 18 | 2 | 4 | 29 | 19 | 53 |
| Pittsburgh | 27 | 27 | 4 | | 0 | 4 | 4 | 33 |
| Reading | 17 | 3 | 0 | | 0 | 0 | 8 | 1 |
| **EAST NORTH CENTRAL** | | | | | | | | |
| Ohio: | | | | | | | | |
| Cincinnati | 1 | 13 | 1 | | 1 | 0 | 10 | 12 |
| Cleveland | 142 | 53 | 12 | 3 | 2 | 3 | 66 | 10 |
| Columbus | 16 | 10 | 10 | 2 | 4 | 0 | 0 | 7 |
| Toledo | 61 | 11 | 3 | 2 | 2 | 3 | 4 | 3 |
| Indiana: | | | | | | | | |
| Fort Wayne | 4 | 5 | 2 | | 1 | 2 | 0 | 0 |
| Indianapolis | 40 | 13 | 13 | | 0 | 1 | 2 | 12 |
| South Bend | 4 | 2 | 4 | | 0 | 1 | 0 | 1 |
| Terre Haute | 0 | 2 | 0 | | 0 | 0 | 0 | 2 |
| Illinois: | | | | | | | | |
| Chicago | 103 | 146 | 104 | 3 | 4 | 9 | 49 | 58 |
| Springfield | 0 | 2 | 5 | | 1 | 0 | 0 | 1 |
| Michigan: | | | | | | | | |
| Detroit | 133 | 67 | 49 | 5 | 1 | 5 | 24 | 25 |
| Flint | 18 | 6 | 0 | | 0 | 2 | 0 | 2 |
| Grand Rapids | 3 | 3 | 0 | | 0 | 1 | 0 | 0 |
| Wisconsin: | | | | | | | | |
| Kenosha | 41 | 2 | 1 | | 0 | 0 | 4 | 1 |
| Madison | 33 | 2 | 0 | | | 0 | 23 | |
| Milwaukee | 78 | 22 | 6 | | 0 | 3 | 38 | 6 |
| Racine | 22 | 2 | 0 | | 0 | 0 | 0 | 0 |
| Superior | 5 | 0 | 0 | | 0 | 0 | 0 | 0 |

*City reports for week ended November 15, 1930*—Continued

| Division, State, and City | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---|---|---|---|---|---|---|---|---|
| | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| **WEST NORTH CENTRAL** | | | | | | | | |
| Minnesota: | | | | | | | | |
| Duluth | 18 | 0 | 0 | ---------- | 0 | 0 | 0 | 4 |
| Minneapolis | 44 | 34 | 8 | ---------- | 2 | 6 | 8 | 0 |
| St. Paul | 49 | 15 | 1 | ---------- | 0 | 2 | 1 | 8 |
| Iowa: | | | | | | | | |
| Davenport | 0 | 1 | 2 | ---------- | ---------- | 0 | 0 | ---------- |
| Des Moines | 3 | 3 | 1 | ---------- | ---------- | 2 | 0 | ---------- |
| Sioux City | 12 | 2 | 1 | ---------- | ---------- | 1 | 1 | ---------- |
| Waterloo | 20 | 1 | 0 | ---------- | ---------- | 1 | 0 | ---------- |
| Missouri: | | | | | | | | |
| Kansas City | 21 | 11 | 13 | ---------- | 0 | 1 | 3 | 6 |
| St. Joseph | 1 | 2 | 0 | ---------- | 0 | 0 | 0 | 1 |
| St. Louis | 22 | 46 | 21 | ---------- | ---------- | 245 | 4 | ---------- |
| North Dakota: | | | | | | | | |
| Fargo | 8 | 0 | 0 | ---------- | 0 | 0 | 9 | 1 |
| Grand Forks | 2 | 0 | 0 | ---------- | ---------- | 0 | 10 | ---------- |
| South Dakota: | | | | | | | | |
| Aberdeen | 2 | 0 | 0 | ---------- | ---------- | 0 | 1 | ---------- |
| Sioux Falls | 0 | 1 | 0 | ---------- | ---------- | 0 | 0 | ---------- |
| Nebraska: | | | | | | | | |
| Omaha | 11 | 12 | 6 | ---------- | 0 | 1 | 0 | 0 |
| Kansas: | | | | | | | | |
| Topeka | 1 | 2 | 1 | ---------- | 0 | 1 | 0 | 0 |
| Wichita | 9 | 4 | 4 | ---------- | 0 | 1 | 0 | 6 |
| **SOUTH ATLANTIC** | | | | | | | | |
| Delaware: | | | | | | | | |
| Wilmington | 0 | 1 | 2 | ---------- | 0 | 0 | 0 | 6 |
| Maryland: | | | | | | | | |
| Baltimore | 48 | 29 | 5 | 8 | 0 | 1 | 4 | 27 |
| Cumberland | 0 | 0 | 0 | ---------- | 0 | 0 | 0 | 1 |
| Frederick | 1 | 0 | 1 | ---------- | 0 | 0 | 0 | 0 |
| District of Columbia: | | | | | | | | |
| Washington | 8 | 21 | 6 | 1 | 1 | 4 | 0 | 16 |
| Virginia: | | | | | | | | |
| Lynchburg | 2 | 4 | 3 | ---------- | 0 | 0 | 0 | 3 |
| Norfolk | 1 | 3 | 1 | ---------- | 0 | 0 | 0 | 12 |
| Richmond | 1 | 18 | 9 | ---------- | 0 | 4 | 1 | 3 |
| Roanoke | 3 | 5 | 3 | ---------- | 0 | 0 | 0 | 0 |
| West Virginia: | | | | | | | | |
| Charleston | 6 | 3 | 1 | 1 | 1 | 0 | 1 | 3 |
| Wheeling | 20 | 2 | 0 | 1 | 0 | 1 | 1 | 3 |
| North Carolina: | | | | | | | | |
| Raleigh | 0 | 3 | 1 | ---------- | 0 | 0 | 0 | 1 |
| Wilmington | 0 | 1 | 2 | ---------- | 0 | 0 | 0 | 3 |
| Winston-Salem | 10 | 5 | 1 | ---------- | 0 | 0 | 1 | 1 |
| South Carolina: | | | | | | | | |
| Charleston | 0 | 2 | 0 | 45 | 0 | 0 | 0 | 4 |
| Columbia | 3 | 1 | 2 | ---------- | 0 | 0 | 1 | 0 |
| Greenville | 2 | 1 | 0 | ---------- | 0 | 1 | 0 | 0 |
| Georgia: | | | | | | | | |
| Atlanta | 5 | 8 | 21 | 21 | 1 | 2 | 0 | 5 |
| Brunswick | 0 | 0 | 0 | ---------- | 0 | 0 | 0 | 3 |
| Savannah | 0 | 3 | 3 | 3 | 0 | 0 | 0 | 4 |
| Florida: | | | | | | | | |
| Miami | 0 | 2 | 0 | ---------- | 0 | 1 | 0 | 1 |
| St. Petersburg | ---------- | 0 | ---------- | ---------- | 0 | ---------- | ---------- | 0 |
| Tampa | 0 | 2 | 0 | ---------- | 0 | 1 | 0 | 3 |
| **EAST SOUTH CENTRAL** | | | | | | | | |
| Kentucky: | | | | | | | | |
| Covington | 0 | 2 | 0 | ---------- | 0 | 0 | 0 | 2 |
| Tennessee: | | | | | | | | |
| Memphis | 20 | 9 | 8 | ---------- | 1 | 0 | 13 | 9 |
| Nashville | 0 | 4 | 4 | ---------- | 2 | 0 | 1 | 3 |
| Alabama: | | | | | | | | |
| Birmingham | 1 | 8 | 13 | 1 | 1 | 3 | 0 | 13 |
| Mobile | 1 | 2 | 3 | ---------- | 2 | 0 | 0 | 2 |
| Montgomery | 0 | 3 | 3 | ---------- | ---------- | 0 | 0 | ---------- |

*City reports for week ended November 15, 1930*—Continued

| Division, State, and City | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---|---|---|---|---|---|---|---|---|
| | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| **WEST SOUTH CENTRAL** | | | | | | | | |
| Arkansas: | | | | | | | | |
| Fort Smith | 0 | 3 | 0 | ---- | ---- | 0 | 0 | ---- |
| Little Rock | 2 | 4 | 0 | ---- | 0 | 0 | 0 | 1 |
| Louisiana: | | | | | | | | |
| New Orleans | 0 | 14 | 8 | 3 | 4 | 0 | 0 | 16 |
| Shreveport | 1 | 3 | 0 | ---- | 1 | 0 | 0 | 0 |
| Oklahoma: | | | | | | | | |
| Muskogee | 0 | 3 | 4 | ---- | 0 | 2 | 0 | 0 |
| Texas: | | | | | | | | |
| Dallas | 5 | 19 | 15 | ---- | 2 | 0 | 1 | 8 |
| Fort Worth | 12 | 8 | 9 | ---- | 1 | 0 | 0 | 4 |
| Galveston | 0 | 1 | 1 | ---- | 0 | 0 | 0 | 1 |
| Houston | 0 | 9 | 20 | ---- | 1 | 0 | 0 | 3 |
| San Antonio | 0 | 5 | 2 | ---- | 0 | 0 | 0 | 0 |
| **MOUNTAIN** | | | | | | | | |
| Montana: | | | | | | | | |
| Billings | 6 | 1 | 0 | ---- | 1 | 0 | 0 | 0 |
| Great Falls | 4 | 0 | 0 | ---- | 0 | 0 | 0 | 2 |
| Helena | 3 | 0 | 0 | ---- | 0 | 0 | 0 | 0 |
| Missoula | 0 | 1 | 0 | ---- | 0 | 0 | 0 | 1 |
| Idaho: | | | | | | | | |
| Boise | 2 | 0 | 0 | ---- | 0 | 0 | 0 | 0 |
| Colorado: | | | | | | | | |
| Denver | 40 | 13 | 2 | ---- | 0 | 2 | 7 | 16 |
| Pueblo | 1 | 1 | 0 | ---- | 0 | 33 | 0 | 0 |
| New Mexico: | | | | | | | | |
| Albuquerque | 8 | 0 | 0 | ---- | 0 | 0 | 0 | 0 |
| Arizona: | | | | | | | | |
| Phoenix | 0 | 1 | 0 | ---- | 0 | 0 | 0 | 5 |
| Utah: | | | | | | | | |
| Salt Lake City | 10 | 5 | 1 | ---- | 0 | 0 | 1 | 6 |
| Nevada: | | | | | | | | |
| Reno | 0 | 0 | 0 | ---- | 0 | 0 | 0 | 0 |
| **PACIFIC** | | | | | | | | |
| Washington: | | | | | | | | |
| Seattle | 22 | 5 | 0 | ---- | ---- | 0 | 18 | ---- |
| Spokane | 7 | 3 | 0 | ---- | ---- | 1 | 0 | ---- |
| Tacoma | 0 | 4 | 5 | ---- | 0 | 0 | 0 | 4 |
| Oregon: | | | | | | | | |
| Portland | 26 | 11 | 0 | ---- | 0 | 1 | 5 | 0 |
| Salem | 0 | 0 | 0 | ---- | 0 | 0 | 0 | 0 |
| California: | | | | | | | | |
| Los Angeles | 14 | 41 | 15 | 17 | 1 | 14 | 13 | 13 |
| Sacramento | 5 | 3 | 1 | 1 | 0 | 0 | 14 | 4 |
| San Francisco | 9 | 17 | 10 | 2 | 1 | 1 | 7 | 6 |

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths, all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| **NEW ENGLAND** | | | | | | | | | | | |
| Maine: | | | | | | | | | | | |
| Portland | 2 | 1 | 0 | 0 | ---- | 0 | 1 | 2 | 0 | 11 | 23 |
| New Hampshire: | | | | | | | | | | | |
| Concord | 0 | 0 | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 9 |
| Nashua | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| Vermont: | | | | | | | | | | | |
| Barre | 0 | 0 | 0 | 0 | ---- | 0 | 0 | 0 | 0 | 0 | 3 |
| Burlington | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Massachusetts: | | | | | | | | | | | |
| Boston | 53 | 42 | 0 | 0 | 0 | 14 | 2 | 4 | 0 | 8 | 214 |
| Fall River | 4 | 6 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 24 |
| Springfield | 5 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 30 |
| Worcester | 9 | 30 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 54 |

*City reports for week ended November 15, 1930*—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths, all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| **NEW ENGLAND—continued** | | | | | | | | | | | |
| **Rhode Island:** | | | | | | | | | | | |
| Pawtucket | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| Providence | 9 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 16 | 66 |
| **Connecticut:** | | | | | | | | | | | |
| Bridgeport | 7 | 5 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 25 |
| Hartford | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 37 |
| New Haven | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 46 |
| **MIDDLE ATLANTIC** | | | | | | | | | | | |
| **New York:** | | | | | | | | | | | |
| Buffalo | 22 | 14 | 0 | 1 | 0 | 9 | 1 | 0 | 0 | 18 | 135 |
| New York | 98 | 74 | 0 | 0 | 0 | 94 | 16 | 4 | 3 | 134 | 1,422 |
| Rochester | 5 | 25 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 11 | 87 |
| Syracuse | 6 | 9 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 40 |
| **New Jersey:** | | | | | | | | | | | |
| Camden | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 30 |
| Newark | 12 | 10 | 0 | 0 | 0 | 9 | 1 | 0 | 0 | 13 | 130 |
| Trenton | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 27 |
| **Pennsylvania:** | | | | | | | | | | | |
| Philadelphia | 64 | 105 | 0 | 0 | 0 | 32 | 5 | 4 | 1 | 10 | 495 |
| Pittsburgh | 34 | 28 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 189 |
| Reading | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 20 |
| **EAST NORTH CENTRAL** | | | | | | | | | | | |
| **Ohio:** | | | | | | | | | | | |
| Cincinnati | 13 | 28 | 0 | 0 | 0 | 9 | 1 | 0 | 0 | 0 | 166 |
| Cleveland | 28 | 57 | 0 | 0 | 0 | 9 | 1 | 3 | 0 | 10 | 168 |
| Columbus | 9 | 9 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 90 |
| Toledo | 11 | 14 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 84 |
| **Indiana:** | | | | | | | | | | | |
| Fort Wayne | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 23 |
| Indianapolis | 13 | 46 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | ---- |
| South Bend | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 15 |
| Terre Haute | 4 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 23 |
| **Illinois:** | | | | | | | | | | | |
| Chicago | 97 | 199 | 0 | 0 | 0 | 48 | 3 | 2 | 0 | 50 | 731 |
| Springfield | 3 | 9 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 28 |
| **Michigan:** | | | | | | | | | | | |
| Detroit | 73 | 58 | 1 | 0 | 0 | 21 | 2 | 0 | 0 | 43 | 292 |
| Flint | 13 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 21 |
| Grand Rapids | 9 | 15 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 32 |
| **Wisconsin:** | | | | | | | | | | | |
| Kenosha | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 11 |
| Madison | 1 | 4 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 5 | ---- |
| Milwaukee | 17 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 36 | 85 |
| Racine | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 20 |
| Superior | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| **WEST NORTH CENTRAL** | | | | | | | | | | | |
| **Minnesota:** | | | | | | | | | | | |
| Duluth | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 25 |
| Minneapolis | 43 | 8 | 1 | 0 | 0 | 2 | 0 | 3 | 1 | 8 | ---- |
| St. Paul | 19 | 3 | 0 | 0 | 0 | 6 | 0 | 0 | 1 | 9 | 59 |
| **Iowa:** | | | | | | | | | | | |
| Davenport | 0 | 0 | 0 | 1 | ---- | ---- | 0 | 0 | ---- | 0 | ---- |
| Des Moines | 11 | 6 | 2 | 5 | ---- | ---- | 0 | 0 | ---- | 0 | 29 |
| Sioux City | 2 | 3 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 9 | ---- |
| Waterloo | 3 | 3 | 1 | 0 | ---- | ---- | 0 | 0 | ---- | 6 | ---- |
| **Missouri:** | | | | | | | | | | | |
| Kansas City | 14 | 10 | 0 | 0 | 0 | 10 | 1 | 4 | 0 | 7 | 97 |
| St. Joseph | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 |
| St. Louis | 33 | 34 | 0 | 0 | 0 | 7 | 3 | 1 | 0 | 3 | 183 |
| **North Dakota:** | | | | | | | | | | | |
| Fargo | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Grand Forks | 1 | 1 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 2 | ---- |
| **South Dakota:** | | | | | | | | | | | |
| Aberdeen | 0 | 0 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 0 | ---- |
| Sioux Falls | 2 | 0 | 0 | 1 | ---- | ---- | 0 | 0 | ---- | 0 | 10 |

*City reports for week ended November 15, 1930*—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths, all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| **WEST NORTH CENTRAL—continued** | | | | | | | | | | | |
| Nebraska: | | | | | | | | | | | |
| Omaha | 5 | 4 | 1 | 10 | 0 | 3 | 0 | 2 | 0 | 4 | 54 |
| Kansas: | | | | | | | | | | | |
| Topeka | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Wichita | 5 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 27 |
| **SOUTH ATLANTIC** | | | | | | | | | | | |
| Delaware: | | | | | | | | | | | |
| Wilmington | 3 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 41 |
| Maryland: | | | | | | | | | | | |
| Baltimore | 18 | 21 | 0 | 0 | 0 | 11 | 3 | 5 | 0 | 20 | 244 |
| Cumberland | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 10 |
| Frederick | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| District of Columbia: | | | | | | | | | | | |
| Washington | 16 | 18 | 1 | 0 | 0 | 14 | 2 | 1 | 1 | 3 | 160 |
| Virginia: | | | | | | | | | | | |
| Lynchburg | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 1 | 16 |
| Norfolk | 2 | 2 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | ---- |
| Richmond | 8 | 9 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 67 |
| Roanoke | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| West Virginia: | | | | | | | | | | | |
| Charleston | 3 | 1 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 1 | 20 |
| Wheeling | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| North Carolina: | | | | | | | | | | | |
| Raleigh | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 15 |
| Wilmington | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 18 |
| Winston-Salem | 5 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 14 |
| South Carolina: | | | | | | | | | | | |
| Charleston | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 30 |
| Columbia | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Greenville | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| Georgia: | | | | | | | | | | | |
| Atlanta | 7 | 9 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 49 |
| Brunswick | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Savannah | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 38 |
| Florida: | | | | | | | | | | | |
| Miami | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 28 |
| St. Petersburg | 0 | ---- | 0 | ---- | 0 | 0 | 0 | ---- | 0 | ---- | 10 |
| Tampa | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| **EAST SOUTH CENTRAL** | | | | | | | | | | | |
| Kentucky: | | | | | | | | | | | |
| Covington | 1 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Tennessee: | | | | | | | | | | | |
| Memphis | 6 | 12 | 0 | 0 | 0 | 5 | 1 | 5 | 2 | 1 | 90 |
| Nashville | 3 | 12 | 0 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 37 |
| Alabama: | | | | | | | | | | | |
| Birmingham | 4 | 10 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 78 |
| Mobile | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 32 |
| Montgomery | 0 | 1 | 0 | 0 | ---- | ---- | 0 | 1 | ---- | 1 | ---- |
| **WEST SOUTH CENTRAL** | | | | | | | | | | | |
| Arkansas: | | | | | | | | | | | |
| Fort Smith | 1 | 1 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 1 | ---- |
| Little Rock | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | ---- |
| Louisiana: | | | | | | | | | | | |
| New Orleans | 8 | 14 | 0 | 0 | 0 | 7 | 2 | 3 | 1 | 2 | 159 |
| Shreveport | 2 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 32 |
| Oklahoma: | | | | | | | | | | | |
| Muskogee | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | ---- |
| Texas: | | | | | | | | | | | |
| Dallas | 7 | 12 | 0 | 0 | 0 | 2 | 1 | 3 | 3 | 3 | 65 |
| Fort Worth | 2 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 27 |
| Galveston | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 17 | 0 | 0 | 19 |
| Houston | 3 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 83 |
| San Antonio | 1 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 50 |

*City reports for week ended November 15, 1930*—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| MOUNTAIN | | | | | | | | | | | |
| Montana: | | | | | | | | | | | |
| Billings | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 |
| Great Falls | 1 | 7 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 15 |
| Helena | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Missoula | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 |
| Idaho: | | | | | | | | | | | |
| Boise | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 |
| Colorado: | | | | | | | | | | | |
| Denver | 10 | 26 | 0 | 0 | 0 | 11 | 1 | 0 | 0 | 12 | 96 |
| Pueblo | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 4 | 10 |
| New Mexico: | | | | | | | | | | | |
| Albuquerque | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 12 |
| Arizona: | | | | | | | | | | | |
| Phoenix | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | ---- |
| Utah: | | | | | | | | | | | |
| Salt Lake City | 3 | 6 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 24 | 47 |
| Nevada: | | | | | | | | | | | |
| Reno | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| PACIFIC | | | | | | | | | | | |
| Washington: | | | | | | | | | | | |
| Seattle | 9 | 12 | 1 | 0 | ---- | ---- | 1 | 3 | ---- | 8 | ---- |
| Spokane | 9 | 4 | 2 | 7 | ---- | ---- | 1 | 0 | ---- | 0 | ---- |
| Tacoma | 4 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 32 |
| Oregon: | | | | | | | | | | | |
| Portland | 8 | 1 | 3 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 82 |
| Salem | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| California: | | | | | | | | | | | |
| Los Angeles | 27 | 23 | 0 | 1 | 0 | 16 | 1 | 2 | 1 | 22 | 267 |
| Sacramento | 3 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 8 | 24 |
| San Francisco | 13 | 6 | 0 | 0 | 0 | 7 | 1 | 0 | 0 | 16 | 166 |

| Division, State, and city | Meningococcus meningitis | | Lethargic encephalitis | | Pellagra | | Poliomyelitis (infantile paralysis) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases, estimated expectancy | Cases | Deaths |
| NEW ENGLAND | | | | | | | | | |
| Maine: | | | | | | | | | |
| Portland | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Massachusetts: | | | | | | | | | |
| Boston | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 |
| Worcester | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connecticut: | | | | | | | | | |
| Hartford | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| MIDDLE ATLANTIC | | | | | | | | | |
| New York: | | | | | | | | | |
| New York | 6 | 1 | 2 | 2 | 0 | 0 | 5 | 0 | 0 |
| Rochester | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Syracuse | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| New Jersey: | | | | | | | | | |
| Newark | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Pennsylvania: | | | | | | | | | |
| Philadelphia | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| EAST NORTH CENTRAL | | | | | | | | | |
| Ohio: | | | | | | | | | |
| Cincinnati | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Cleveland | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Columbus | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indiana: | | | | | | | | | |
| Fort Wayne | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Indianapolis | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| South Bend | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

*City reports for week ended November 15, 1930*—Continued

| Division, State, and city | Meningococcus meningitis | | Lethargic encephalitis | | Pellagra | | Poliomyelitis (infantile paralysis) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases, estimated expectancy | Cases | Deaths |
| **EAST NORTH CENTRAL—con.** | | | | | | | | | |
| Illinois: | | | | | | | | | |
| Chicago | 5 | 4 | 1 | 0 | 0 | 0 | 1 | 8 | 1 |
| Springfield | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Michigan: | | | | | | | | | |
| Detroit | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1 |
| Wisconsin: | | | | | | | | | |
| Kenosha | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Madison | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Milwaukee | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| **WEST NORTH CENTRAL** | | | | | | | | | |
| Minnesota: | | | | | | | | | |
| Minneapolis | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Iowa: | | | | | | | | | |
| Des Moines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Sioux City | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Missouri: | | | | | | | | | |
| Kansas City | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| St. Joseph | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| St. Louis | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| North Dakota: | | | | | | | | | |
| Fargo | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| **SOUTH ATLANTIC** | | | | | | | | | |
| Maryland: | | | | | | | | | |
| Baltimore | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| District of Columbia: | | | | | | | | | |
| Washington | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Virginia: | | | | | | | | | |
| Lynchburg | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| North Carolina: | | | | | | | | | |
| Raleigh | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 |
| South Carolina: | | | | | | | | | |
| Charleston [1] | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Georgia: | | | | | | | | | |
| Atlanta | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Savannah | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 |
| **EAST SOUTH CENTRAL** | | | | | | | | | |
| Tennessee: | | | | | | | | | |
| Memphis | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nashville | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alabama: | | | | | | | | | |
| Birmingham | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Montgomery | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **WEST SOUTH CENTRAL** | | | | | | | | | |
| Louisiana: | | | | | | | | | |
| New Orleans | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| Shreveport | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Texas: | | | | | | | | | |
| Dallas [2] | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 |
| Fort Worth | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Houston | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| San Antonio | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| **MOUNTAIN** | | | | | | | | | |
| New Mexico: | | | | | | | | | |
| Albuquerque | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Utah: | | | | | | | | | |
| Salt Lake City | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PACIFIC** | | | | | | | | | |
| California: | | | | | | | | | |
| Los Angeles | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 1 |
| Sacramento | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 |
| San Francisco | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 13 | 0 |

[1] Dengue, 2 cases at Charleston, S. C.

[2] Typhus fever, 1 case at Dallas, Tex.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended November 15, 1930, compared with those for a like period ended November 16, 1929. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have an estimated aggregate population of more than 32,000,000. The 91 cities reporting deaths have more than 30,500,000 estimated population.

*Summary of weekly reports from cities October 12 to November 15, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929* [1]

DIPHTHERIA CASE RATES

| | Week ended— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Oct. 18, 1930 | Oct. 19, 1929 | Oct. 25, 1930 | Oct. 26, 1929 | Nov. 1, 1930 | Nov. 2, 1929 | Nov. 8, 1930 | Nov. 9, 1929 | Nov. 15, 1930 | Nov. 16, 1929 |
| 98 cities | 71 | 135 | [2] 79 | 134 | [3] 93 | 143 | [4] 84 | 156 | 91 | 159 |
| New England | 64 | 128 | 97 | 110 | [5] 85 | 114 | [6] 79 | 119 | 75 | 168 |
| Middle Atlantic | 35 | 88 | 36 | 86 | [7] 48 | 99 | 35 | 104 | 46 | 112 |
| East North Central | 92 | 155 | 106 | 163 | 131 | 168 | 110 | 195 | 130 | 205 |
| West North Central | 74 | 167 | 65 | 137 | 91 | 160 | [8] 75 | 200 | 104 | 165 |
| South Atlantic | 92 | 180 | 97 | 139 | 106 | 144 | 79 | 125 | 110 | 122 |
| East South Central | 162 | 171 | 202 | 185 | 331 | 205 | 243 | 219 | 209 | 232 |
| West South Central | 127 | 339 | [3] 88 | 396 | 108 | 434 | 213 | 480 | 172 | 427 |
| Mountain | 17 | 70 | 60 | 26 | 34 | 17 | 120 | 61 | 26 | 44 |
| Pacific | 102 | 87 | 118 | 121 | 78 | 111 | 109 | 97 | 73 | 84 |

MEASLES CASE RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 98 cities | 36 | 30 | [2] 37 | 30 | [3] 61 | 38 | [4] 58 | 44 | 93 | 56 |
| New England | 44 | 58 | 69 | 29 | [5] 125 | 27 | [6] 94 | 20 | 157 | 45 |
| Middle Atlantic | 23 | 17 | 30 | 21 | [7] 29 | 33 | 35 | 20 | 71 | 26 |
| East North Central | 14 | 40 | 16 | 47 | 18 | 40 | 16 | 68 | 17 | 91 |
| West North Central | 140 | 31 | 140 | 21 | 288 | 52 | [8] 275 | 94 | 491 | 50 |
| South Atlantic | 7 | 9 | 13 | 9 | 18 | 15 | 44 | 9 | 24 | 7 |
| East South Central | 7 | 0 | 27 | 21 | 47 | 0 | 94 | 7 | 20 | 14 |
| West South Central | 4 | 4 | [2] 4 | 15 | 0 | 0 | 0 | 4 | 0 | 19 |
| Mountain | 189 | 52 | 137 | 26 | 403 | 244 | 223 | 61 | 300 | 252 |
| Pacific | 66 | 72 | 21 | 63 | 28 | 58 | 28 | 113 | 38 | 142 |

SCARLET FEVER CASE RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 98 cities | 123 | 138 | [2] 123 | 138 | [3] 165 | 155 | [4] 172 | 191 | 191 | 205 |
| New England | 148 | 173 | 144 | 162 | [5] 195 | 177 | [6] 204 | 276 | 253 | 265 |
| Middle Atlantic | 90 | 69 | 82 | 75 | [7] 139 | 89 | 140 | 102 | 133 | 135 |
| East North Central | 179 | 214 | 172 | 192 | 220 | 226 | 234 | 295 | 290 | 311 |
| West North Central | 114 | 173 | 114 | 173 | 159 | 160 | [8] 137 | 187 | 140 | 139 |
| South Atlantic | 115 | 127 | 148 | 174 | 152 | 139 | 145 | 167 | 141 | 238 |
| East South Central | 148 | 232 | 169 | 109 | 277 | 205 | 331 | 178 | 310 | 157 |
| West South Central | 78 | 103 | [2] 73 | 149 | 71 | 149 | 97 | 152 | 127 | 152 |
| Mountain | 232 | 157 | 163 | 235 | 335 | 226 | 275 | 357 | 378 | 226 |
| Pacific | 59 | 113 | 104 | 104 | 54 | 181 | 111 | 176 | 116 | 179 |

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimates as of July 1, 1930, and 1929, respectively.
[2] Fort Smith, Ark., not included.
[3] Concord, N. H., and Buffalo, N. Y., not included.
[4] Hartford, Conn., and Waterloo, Iowa, not included
[5] Concord, N. H., not included.
[6] Hartford, Conn., not included.
[7] Buffalo, N. Y., not included.
[8] Waterloo, Iowa, not included

*Summary of weekly reports from cities October 12 to November 15, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929*—Continued

SMALLPOX CASE RATES

| | Week ended— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Oct. 18, 1930 | Oct. 19, 1929 | Oct. 25, 1930 | Oct. 26, 1929 | Nov. 1, 1930 | Nov. 2, 1929 | Nov. 8, 1930 | Nov. 9, 1929 | Nov. 15, 1930 | Nov. 16, 1929 |
| 98 cities | 2 | 12 | [1] 2 | 10 | [1] 3 | 13 | [4] 2 | 9 | 4 | 13 |
| New England | 0 | 0 | 0 | 0 | [5] 0 | 0 | [6] 0 | 2 | 0 | 25 |
| Middle Atlantic | 0 | 0 | 0 | 0 | [7] 0 | 0 | 0 | 0 | 0 | 0 |
| East North Central | 4 | 7 | 2 | 12 | 1 | 20 | 4 | 15 | 2 | 22 |
| West North Central | 0 | 21 | 0 | 31 | 19 | 42 | [5] 6 | 29 | 21 | 42 |
| South Atlantic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| East South Central | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 |
| West South Central | 4 | 0 | [2] 8 | 0 | 4 | 27 | 7 | 8 | 4 | 4 |
| Mountain | 26 | 122 | 0 | 52 | 9 | 61 | 9 | 17 | 0 | 9 |
| Pacific | 0 | 84 | 21 | 51 | 17 | 29 | 7 | 19 | 21 | 31 |

TYPHOID FEVER CASE RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 98 cities | 17 | 17 | [1] 18 | 15 | [1] 14 | 11 | [4] 11 | 9 | 15 | 8 |
| New England | 9 | 9 | 27 | 16 | [5] 4 | 7 | [6] 5 | 11 | 22 | 22 |
| Middle Atlantic | 11 | 8 | 13 | 8 | [7] 10 | 8 | 5 | 8 | 4 | 3 |
| East North Central | 7 | 10 | 5 | 7 | 8 | 6 | 9 | 6 | 5 | 6 |
| West North Central | 15 | 25 | 8 | 6 | 13 | 17 | [5] 4 | 12 | 19 | 4 |
| South Atlantic | 57 | 24 | 37 | 21 | 29 | 13 | 29 | 13 | 31 | 9 |
| East South Central | 47 | 68 | 94 | 48 | 115 | 34 | 27 | 21 | 54 | 14 |
| West South Central | 22 | 15 | [2] 27 | 42 | 15 | 19 | 30 | 11 | 93 | 8 |
| Mountain | 34 | 192 | 77 | 200 | 0 | 78 | 17 | 17 | 26 | 44 |
| Pacific | 26 | 19 | 19 | 5 | 21 | 2 | 19 | 7 | 12 | 10 |

INFLUENZA DEATH RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 91 cities | 5 | 8 | 5 | 9 | [1] 9 | 11 | [4] 9 | 8 | 10 | 9 |
| New England | 7 | 2 | 2 | 0 | [5] 2 | 2 | [6] 2 | 4 | 4 | 9 |
| Middle Atlantic | 4 | 6 | 7 | 12 | [7] 10 | 9 | 13 | 8 | 9 | 4 |
| East North Central | 4 | 9 | 3 | 10 | 6 | 9 | 6 | 8 | 9 | 9 |
| West North Central | 3 | 9 | 9 | 3 | 9 | 6 | 3 | 3 | 6 | 3 |
| South Atlantic | 5 | 9 | 4 | 4 | 16 | 19 | 9 | 4 | 5 | 11 |
| East South Central | 0 | 7 | 7 | 22 | 15 | 30 | 29 | 37 | 44 | 22 |
| West South Central | 8 | 16 | 8 | 20 | 23 | 27 | 15 | 12 | 31 | 31 |
| Mountain | 9 | 17 | 9 | 17 | 17 | 26 | 9 | 0 | 9 | 26 |
| Pacific | 9 | 6 | 9 | 3 | 3 | 3 | 9 | 16 | 6 | 9 |

PNEUMONIA DEATH RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 91 cities | 74 | 97 | 89 | 108 | [1] 100 | 105 | [4] 104 | 105 | 118 | 98 |
| New England | 80 | 97 | 91 | 63 | [5] 96 | 74 | [6] 82 | 119 | 104 | 88 |
| Middle Atlantic | 74 | 118 | 108 | 144 | [7] 112 | 113 | 122 | 115 | 136 | 103 |
| East North Central | 51 | 81 | 53 | 91 | 88 | 101 | 75 | 78 | 86 | 71 |
| West North Central | 53 | 69 | 59 | 72 | 95 | 135 | 86 | 108 | 77 | 120 |
| South Atlantic | 88 | 81 | 125 | 112 | 123 | 116 | 139 | 137 | 157 | 107 |
| East South Central | 184 | 112 | 98 | 134 | 74 | 157 | 155 | 90 | 214 | 231 |
| West South Central | 96 | 90 | 134 | 86 | 111 | 105 | 119 | 125 | 111 | 121 |
| Mountain | 189 | 122 | 77 | 122 | 163 | 131 | 189 | 131 | 215 | 157 |
| Pacific | 80 | 82 | 74 | 44 | 40 | 31 | 52 | 72 | 83 | 85 |

[1] Fort Smith, Ark., not included.
[2] Concord, N. H., and Buffalo, N. Y., not included.
[4] Hartford, Conn., and Waterloo, Iowa, not included.
[5] Concord, N. H., not included.
[6] Hartford, Conn., not included.
[7] Buffalo, N. Y., not included.
[8] Waterloo, Iowa, not included.

# FOREIGN AND INSULAR

## CANADA

*Provinces—Communicable diseases—Week ended November 15, 1930.*—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended November 15, 1930, as follows:

| Province | Cerebro-spinal fever | Influenza | Lethargic encephalitis | Poliomyelitis | Smallpox | Typhoid fever |
|---|---|---|---|---|---|---|
| Prince Edward Island [1] | | | | | | |
| Nova Scotia | 2 | 8 | | 1 | | 6 |
| New Brunswick | | | | | | 16 |
| Quebec | 1 | 1 | | | | 17 |
| Ontario | 2 | 4 | | 19 | 14 | 32 |
| Manitoba | | 1 | | 2 | | 1 |
| Saskatchewan | | | 1 | | | |
| Alberta | | | | 2 | | |
| British Columbia | | | | | | 7 |
| Total | 5 | 14 | 1 | 24 | 14 | 79 |

[1] No case of any disease included in the table was reported during the week.

*Ontario Province—Communicable diseases (comparative)—Four weeks ended October 25, 1930.*—During the four weeks ended October 25, 1930, and the corresponding period of the year 1929, certain communicable diseases were reported in the Province of Ontario, Canada, as follows:

| Disease | Four weeks 1929 | | Four weeks 1930 | |
|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths |
| Cerebrospinal meningitis | 11 | 1 | 7 | 2 |
| Chancroid | 1 | | 3 | |
| Chicken pox | 587 | | 380 | |
| Diphtheria | 369 | 18 | 373 | 11 |
| Dysentery | 5 | 7 | | 17 |
| German measles | 4 | | 7 | |
| Goiter | 1 | 1 | 1 | 2 |
| Gonorrhea | 212 | | 95 | |
| Influenza | 2 | 5 | 9 | 5 |
| Lethargic encephalitis | 3 | 4 | 1 | 1 |
| Measles | 399 | 1 | 57 | |
| Mumps | 94 | | 152 | |
| Paratyphoid fever | | | 8 | |
| Pneumonia | | 131 | | 101 |
| Puerperal fever | | | 1 | |
| Scarlet fever | 333 | | 435 | 1 |
| Septic sore throat | 6 | | | |
| Smallpox [1] | 9 | | 34 | |
| Syphilis | 181 | | 109 | 3 |
| Tetanus | | | | 1 |
| Tuberculosis | 112 | 44 | 134 | 48 |
| Typhoid fever | 77 | 3 | 126 | 11 |
| Undulant fever | | | 13 | 1 |
| Whooping cough | 188 | 10 | 315 | 2 |

[1] The cases of smallpox were distributed as follows: Ottawa, 14; Crosby and Mason, 10; Kingston Tp., 4; Kingston, 2; Kirkland Lake, 2; Leamington, 1; and Wiarton, 1.

*Quebec Province—Communicable diseases—Week ended November 15, 1930.*—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended November 15, 1930, as follows:

| Disease | Cases | Disease | Cases |
|---|---|---|---|
| Cerebrospinal meningitis | 1 | Mumps | 33 |
| Chicken pox | 96 | Ophthalmia neonatorum | 8 |
| Diphtheria | 51 | Scarlet fever | 110 |
| Erysipelas | 4 | Tuberculosis | 46 |
| German measles | 1 | Typhoid fever | 17 |
| Influenza | 1 | Whooping cough | 62 |
| Measles | 59 | | |

## ITALY

*Communicable diseases—Years 1927–1929.*—The Director General of Public Health of Italy reports cases of certain communicable diseases for the years 1927, 1928, and 1929 in the Kingdom of Italy as follows:

| Disease | Cases | | |
|---|---|---|---|
| | 1929 | 1928 * | 1927 |
| Anthrax | 2,003 | 1,987 | 2,168 |
| Cerebrospinal meningitis | 770 | 561 | 484 |
| Chicken pox | 13,797 | 13,190 | 12,820 |
| Diphtheria and croup | 24,035 | 19,247 | 18,879 |
| Dysentery (amebic) | 467 | 320 | 532 |
| Dysentery (bacillary) | 837 | 1,121 | 1,579 |
| Glanders | 38 | 39 | 9 |
| Influenza | 279,444 | 76,669 | 119,635 |
| Leprosy | 71 | 63 | 54 |
| Lethargic encephalitis | 227 | 253 | 347 |
| Malaria | 206,590 | 244,650 | 192,738 |
| Measles | 99,609 | 114,979 | 100,195 |
| Pellagra | 98 | | |
| Poliomyelitis | 1,117 | 583 | 404 |
| Rabies | 45 | 44 | 57 |
| Scarlet fever | 21,114 | 17,515 | 19,949 |
| Smallpox | 6 | 52 | 60 |
| Typhoid fever | 31,128 | 31,609 | 36,794 |
| Undulant fever | 956 | 959 | 1,071 |
| Whooping cough | 19,386 | 30,823 | 34,737 |

## JAMAICA

*Communicable diseases—Four weeks ended November 8, 1930.*—During the four weeks ended November 8, 1930, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the island of Jamaica outside of Kingston, as follows:

| Disease | Cases | | Disease | Cases | |
|---|---|---|---|---|---|
| | Kingston | Other localities | | Kingston | Other localities |
| Cerebrospinal meningitis | | 1 | Lethargic encephalitis | | 1 |
| Chicken pox | | 14 | Paratyphoid fever | | 1 |
| Dysentery | | 4 | Puerperal fever | | 2 |
| Erysipelas | | 1 | Tuberculosis | 36 | 59 |
| Leprosy | | 3 | Typhoid fever | 9 | 62 |

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Hygiene, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

### CHOLERA

[C indicates cases; D, deaths; P, present]

| Place | | May 4–31, 1930 | June 1–28, 1930 | June 29–July 26, 1930 | July 27–Aug. 23, 1930 | Week ended— Aug. 30, 1930 | Sept. 6 | Sept. 13 | Sept. 20 | Sept. 27 | Oct. 4 | Oct. 11 | Oct. 18 | Oct. 25 | Nov. 1 | Nov. 8 | Nov. 15 | Nov. 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Afghanistan | C | | | [1] P | P | | | | | | | | | | | | | |
| China: | | | | | | | | | | | | | | | | | | |
| Amoy | C | | | | | | | 1 | 1 | | | | | | | | | |
| | D | | | | | | | 1 | 1 | | | | | | | | | |
| Canton | C | 3 | 2 | 2 | | | | | | | 1 | | | 1 | | | | |
| | D | | | 1 | | | | | | | | | | | | | | |
| Shanghai | C | | | | | 8 | 4 | | 22 | 23 | 5 | 6 | 4 | 1 | | 1 | | |
| | D | | | | | | 1 | 1 | 1 | 2 | | | 2 | | | | | |
| Shensi Province | C | | | | | | | | P | | | | | | | | | |
| Swatow | C | 3 | 7 | | 3 | 1 | 1 | | | | | | | | | | | |
| Tientsin | C | | | | 2 | 1 | | | | | | | | | | | | |
| India | C | 56,311 | 37,102 | 26,121 | 42,893 | 14,249 | 11,823 | 13,072 | 12,407 | | | | | | | | | |
| | D | 44,878 | 25,711 | 13,822 | 22,358 | 5,879 | 5,732 | 6,409 | 5,939 | | | | | | | | | |
| Bassein | C | 7 | | | | | 1 | | | | | | | | | | | |
| | D | 5 | | | | | | | | | | | | | | | | |
| Bombay | C | | | | 14 | | | 1 | | 1 | 3 | 1 | 11 | 17 | 1 | 1 | | |
| | D | | | | 8 | | | 2 | | 1 | 2 | | 8 | 10 | 6 | 1 | | |
| Calcutta | C | 609 | 327 | 220 | 63 | 8 | 10 | | 9 | 4 | 4 | 7 | 9 | 7 | 7 | 11 | | |
| | D | 372 | 179 | 128 | 30 | 3 | 3 | | 6 | 3 | 4 | 4 | 4 | | 2 | 6 | | |
| Madras | C | | | | 1 | | | | | | | 2 | | | | | | |
| | D | | | | 1 | | | | | | | 2 | | | | | | |
| Negapatam | C | | 1 | | | | | | | | | | | | | | | |
| | D | | 1 | | | | | | | | | | | | | | | |
| Rangoon | C | 9 | 6 | 1 | 1 | 1 | 1 | | | | | 1 | | | | | | |
| | D | 3 | 4 | 1 | 1 | 1 | | | | | | 1 | | | | | | |
| Tuticorin | C | | | | | | | | | | | | 1 | | | | 1 | |
| | D | | | | | | | | | | | | 1 | | | | 1 | |
| India (French): | | | | | | | | | | | | | | | | | | |
| Chandernagor | C | 6 | 3 | 1 | | | 1 | | | | 1 | 2 | | | | | | |
| | D | 6 | 2 | | | | | | | | 1 | | | | | | | |
| Karikal | C | | 3 | | | | | | | | | | | | | | | |
| | D | | 3 | | | | | | | | | | | | | | | |
| Pondicherry | C | | | | | | | | | | | 1 | | | | | | |
| | D | | | | | | | | | | | 1 | | | | | | |
| India (Portuguese) | C | | | | 1 | | 1 | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Indo-China (see also table below): | | | | | | | | | | | | | | | | | | |
| Pnompenh | C | 1 | 40 | 32 | 11 | | | | | 1 | | 1 | | 1 | | | | |
| | D | 5 | 18 | 22 | 6 | | | | | | | | | | | | | |
| Saigon and Cholon | C | 160 | 48 | 10 | 5 | | | | | 1 | 1 | | | 1 | | | | |
| | D | 101 | 23 | 3 | 1 | | | | | | | | | | | | | |
| Philippine Islands:[2] | | | | | | | | | | | | | | | | | | |
| Ports— | | | | | | | | | | | | | | | | | | |
| Cebu | C | | 1 | 65 | 9 | 1 | 1 | | | | | | | | | | | |
| | D | | | 36 | 8 | 1 | 1 | | | | | | | | | | | |
| Iloilo | C | | | 29 | 64 | 3 | 4 | 1 | 2 | 1 | | | | | | | | |
| | D | | | 22 | 56 | 4 | 5 | 2 | 3 | 2 | | | 2 | | | | | |
| Manila | C | 1 | | | 1 | 16 | 13 | 10 | 4 | 2 | 1 | 2 | | | | | | |
| | D | | | | | 5 | 6 | 1 | | | 1 | | | | | | | |
| Provinces— | | | | | | | | | | | | | | | | | | |
| Antique | C | | | | 20 | 2 | 25 | 12 | 8 | 12 | | 28 | | | | | | |
| | D | | | | 12 | 1 | 14 | 12 | 7 | 8 | | 10 | | | | | | |
| Bohol | C | | | | 138 | 30 | 14 | 4 | 1 | | | | | | | | | |
| | D | | | | 79 | 12 | 6 | 2 | | | | | | | | | | |
| Bulacan | C | | 3 | 4 | 1 | 1 | 2 | 1 | | | 2 | | | | | | | |
| | D | | 1 | | | 1 | 1 | | | | 1 | | | | | | | |
| Capiz | C | | | 3 | 2 | 1 | | | | | | | | | | | | |
| | D | | | 2 | 2 | | | | | | | | | | | | | |
| Cebu | C | 1 | 355 | 713 | 85 | 1 | 16 | 8 | | | | | | | | | | |
| | D | 1 | 170 | 303 | 50 | 1 | 6 | 4 | | | | | | | | | | |
| Iloilo | C | | 2 | 309 | 571 | 71 | 60 | 61 | 46 | 18 | 7 | 13 | 12 | 10 | 10 | 4 | 6 | 11 |
| | D | | 1 | 193 | 376 | 45 | 45 | 35 | 26 | 15 | 6 | 7 | 12 | 7 | 7 | 3 | 6 | 8 |
| La Union | C | | | 1 | | | | | | | | | | | | | | |
| Leyte | C | | 47 | 11 | | | | | | | | | | | | | | |
| | D | | 19 | 11 | | | | | | | | | | | | | | |
| Masbate | C | | 10 | 92 | 34 | | | | | | | | | | | | | |
| | D | | 3 | 35 | 14 | | | | | | | | | | | | | |
| Misamis, Occidental | C | | | 3 | | | | | | | | | | | | | | |
| | D | | | 3 | | | | | | | | | | | | | | |
| Negros, Occidental | C | 10 | 140 | 568 | 343 | 40 | 43 | 24 | 15 | 8 | 10 | 5 | 5 | 12 | 3 | 19 | 22 | 44 |
| | D | 7 | 88 | 368 | 237 | 32 | 30 | 20 | 9 | 6 | 5 | 6 | 3 | 12 | 3 | 12 | 14 | 33 |
| Negros, Oriental | C | | | 23 | 8 | | | | | | | | | | | | | |
| | D | | | 13 | 4 | | | | | | | | | | | | | |
| Nueva Acija | C | | | 1 | | | | | | | | | | | | | | |
| | D | | | 1 | | | | | | | | | | | | | | |
| Pampanga | C | | 2 | 2 | | 1 | | | | | | | | | | | | |
| Pangasinan | C | | | 3 | 1 | | | | | | | | | | | | | |
| | D | | | 2 | 1 | | | | | | | | | | | | | |
| Rizal | C | | 1 | 1 | | | | | | | | | | | | | | |
| | D | | 1 | 1 | | | | | | | | | | | | | | |
| Samar | C | | | | 18 | | | 3 | 1 | 4 | | | 3 | 6 | 3 | 4 | 3 | 4 |
| | D | | | | 16 | | | 2 | | 4 | | | 3 | 5 | 1 | 4 | 2 | 4 |
| Sorsogon | C | | | | | | | | | | | | | | | 5 | | |
| | D | | | | | | | | | | | | | | | | | |
| Surigao | C | | | | 28 | 1 | | | | (3) | | | | | | | | |
| | D | | | | 17 | 2 | | | | | | | | | | | | |
| Tarlac | C | | | | 1 | | | | | | | | | | | | | |

[1] An outbreak of cholera was reported in June, 1930, in Afghanistan.

[2] Figures for cholera in the Philippine Islands are subject to correction.

[3] During the period from Aug. 24 to Sept. 26, 1930, 26 cases of cholera with 17 deaths were reported in Manitum, Surigao Province, Philippine Islands.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

### CHOLERA—Continued

[C indicates cases; D, deaths; P, present]

| Place | | May 4–31, 1930 | June 1–28, 1930 | June 29–July 26, 1930 | July 27–Aug. 23, 1930 | Week ended— Aug. 30, 1930 | Sept. 6 | Sept. 13 | Sept. 20 | Sept. 27 | Oct. 4 | Oct. 11 | Oct. 18 | Oct. 25 | Nov. 1 | Nov. 8 | Nov. 15 | Nov. 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Siam | C | 33 | 27 | 20 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 3 | 3 | ..... | 1 | ..... | ..... |
| | D | 21 | 19 | 9 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 3 | ..... | 1 | ..... | ..... |
| Bangkok | C | 9 | 12 | 8 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 2 | 1 | 2 | ..... | ..... | ..... |
| | D | 3 | 5 | 3 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 1 | 1 | ..... | ..... | ..... |
| Songkla | C | ..... | ..... | 10 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | D | ..... | ..... | 6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| On vessel: | | | | | | | | | | | | | | | | | | |
| S. S. Malwa from Shanghai | D | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| S. S. Sassari at Massoua, from Jeddah | C | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | D | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| On small boat at Port Cebu, from Bantayan Island | C | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | D | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| Place | | April, 1930 | May, 1930 | June, 1930 | July, 1930 | August, 1930 1–10 | August, 1930 11–20 | August, 1930 21–31 | September, 1930 1–10 | September, 1930 11–20 | September, 1930 21–30 | October, 1930 1–10 | October, 1930 11–20 | October, 1930 21–31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Indo-China (French) (see also table above): | | | | | | | | | | | | | | |
| Annam [1] | C | 60 | 23 | 16 | 1 | ..... | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Cambodia [1] | C | 24 | 88 | 144 | 43 | 37 | 22 | ..... | 23 | 13 | 2 | 16 | ..... | 6 |
| Cochin-China [1] | C | 48 | 671 | 273 | 46 | 22 | 5 | ..... | 9 | 6 | 18 | 14 | 6 | 8 |

[1] Reports incomplete.

## PLAGUE

| Place | | May 4–31, 1930 | June 1–28, 1930 | June 29–July 26, 1930 | July 27–Aug. 23, 1930 | Week ended— Aug. 30, 1930 | Sept. 6 | Sept. 13 | Sept. 20 | Sept. 27 | Oct. 4 | Oct. 11 | Oct. 18 | Oct. 25 | Nov. 1 | Nov. 8 | Nov. 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Algeria:** | | | | | | | | | | | | | | | | | |
| Algiers | C | | | 3 | 7 | 1 | 2 | 6 | 2 | 1 | 1 | 2 | 2 | 5 | | 1 | |
| | D | | | | | | | | | | | | | 3 | | | |
| Constantine | C | | 1 | 1 | | | | | | | | | | | | 1 | |
| Oran | C | | | 3 | 4 | 1 | 2 | 3 | 4 | | 4 | 4 | 2 | 1 | | | |
| | D | | | | | | | 1 | | | | 2 | 1 | | | | |
| Plague-infected rats | | | | 2 | | | 10 | | | 2 | | | 4 | 1 | | | |
| Philippeville | C | | | | | | 1 | | | 1 | | 1 | 1 | 1 | | 1 | |
| **Belgian Congo** | C | | | 2 | 2 | 2 | 3 | | | | | | | | | | |
| | D | | | 2 | 2 | | 3 | | | | | | | | | | |
| **British East Africa (see also table below): Uganda** | C | 227 | 406 | 228 | 236 | 44 | 40 | 57 | 61 | 65 | 18 | | | | | | |
| | D | 195 | 328 | 213 | 229 | 37 | 39 | 55 | 60 | 65 | 18 | | | | | | |
| **Canary Islands: Las Palmas** | D | | | | 1 | | | | | | | | | | | | |
| **Ceylon:** | | | | | | | | | | | | | | | | | |
| Colombo | C | 6 | 1 | 3 | 2 | 2 | | | | 1 | 1 | | 1 | | | | 1 |
| | D | 5 | 1 | 3 | 2 | 3 | | | | 1 | 1 | | 1 | | | | 1 |
| Plague-infected rats | | | 1 | 1 | | | | | | | | | | | | | |
| **China:** | | | | | | | | | | | | | | | | | |
| Manchuria—Tungliau and Nungan | C | | | | 30 | | | 29 | P | 2 | | | | | | | |
| Shensi | C | | | | | | | | P | | | | | P | | | |
| **Dutch East Indies:** | | | | | | | | | | | | | | | | | |
| Batavia and West Java | C | 82 | 98 | 84 | 83 | 13 | 14 | 26 | 26 | 22 | 14 | 26 | | | | | |
| | D | 82 | 98 | 84 | 83 | 12 | 14 | 26 | 24 | 22 | 14 | 26 | | | | | |
| Plague-infected rats | | 5 | 4 | | 1 | | 1 | 1 | 1 | | | | | | | | |
| Java and Madura | D | 185 | 202 | 217 | 188 | 55 | 54 | 67 | 84 | 75 | 68 | | | | | | |
| **Ecuador (see table below).** | | | | | | | | | | | | | | | | | |
| **Egypt:** | | | | | | | | | | | | | | | | | |
| Alexandria | C | 13 | 19 | 23 | 11 | 3 | 3 | 2 | 2 | 2 | 1 | 3 | 3 | 2 | 1 | 1 | 3 |
| | D | 3 | 9 | 10 | 6 | 5 | 1 | 2 | | 3 | 1 | 1 | 1 | 3 | | 2 | 2 |
| Assiout | C | 20 | 9 | 2 | | | | | | | | | | | | 3 | |
| | D | 5 | 3 | 2 | | | | | | | | | | | | 1 | |
| Beni-Suef | C | | | | 1 | | | | | | | | | | | | |
| Dakahlieh | C | 11 | 1 | | | | | | | | | | | | | | |
| | D | 2 | | | | | | | | | | | | | | | |
| Gharbieh | C | | | | 3 | | | | | | | | | | | | |
| | D | | | | 1 | | | | | | | | | | | | |
| Girga | C | | | 1 | | 1 | | | | | | | | | | | |
| Minieh | C | 7 | 10 | 3 | | | | | | | | | | | | | |
| | D | 1 | 1 | | | | | | | | | | | | | | |
| **Port Said** | C | 2 | 2 | 1 | 1 | | | | | | | | | 1 | | | |

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

### PLAGUE—Continued

[C indicates cases; D, deaths; P, present]

| Place | | May 4–31, 1930 | June 1–28, 1930 | June 29–July 26, 1930 | July 27–Aug. 23, 1930 | Week ended— Aug. 30, 1930 | September, 1930 6 | 13 | 20 | 27 | October, 1930 4 | 11 | 18 | 25 | November, 1930 1 | 8 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| France: | | | | | | | | | | | | | | | | | |
| Marseille | C | | | | | 2 | 2 | 1 | | | | | 4 | 2 | 1 | | |
| St. Ouen | C | | | 1 | | | | | | | | | | | | | |
| | D | | | 1 | | | | | | | | | | | | | |
| Gambia | C | | | | 4 | | | | | | | | | | | | |
| | D | | | | 4 | | | | | | | | | | | | |
| Greece (see also table below): | | | | | | | | | | | | | | | | | |
| Patras | C | | 1 | 1 | | | | | | | | | | | | | |
| Pyrgos | C | | | | | | | | | | 2 | | | | | | |
| Hawaii Territory, Hamakua, Hawaii: Plague-infected rats | | | 1 | | | | | | | | | | | | | | |
| India | C | 648 | 240 | 377 | 877 | 593 | 600 | 704 | 600 | | | | | | | | |
| | D | 635 | 187 | 256 | 477 | 262 | 291 | 328 | 251 | | | | | | | | |
| Bassein | C | | | | | 1 | | 1 | | | | | | | 1 | | |
| | D | | | | | 1 | | 2 | | | | | | | | | |
| Bombay | C | 6 | 3 | 1 | | | 1 | | | 1 | | | 1 | 1 | | | |
| | D | 5 | 2 | 1 | | | 1 | | | | 1 | | 1 | | 1 | | |
| Plague-infected rats | | 81 | 26 | 52 | 35 | 12 | 9 | 11 | 15 | 21 | 13 | 16 | 14 | 2 | 9 | 11 | |
| Madras Presidency | C | 38 | 39 | 47 | 81 | | 47 | 41 | 39 | 41 | 59 | 7 | | | | | |
| | D | 11 | 22 | 31 | 34 | | 23 | 13 | 21 | 14 | 32 | 9 | | | | | |
| Rangoon | C | 4 | 1 | 2 | 3 | 2 | 1 | 5 | 2 | 2 | | | | | 1 | | |
| | D | 3 | 1 | 2 | 2 | 2 | 1 | 4 | 2 | 2 | | | | | 1 | | |
| Plague-infected rats | | 5 | 1 | 6 | 7 | 2 | | 2 | 4 | | 1 | | | 1 | | | |
| India (Portuguese) | D | 7 | | | P | | | | | | | | | | | | |
| Indo-China (see also table below): | | | | | | | | | | | | | | | | | |
| Pnompenh | C | 3 | 6 | 2 | 4 | 2 | 1 | | | 1 | 1 | | | | | | |
| | D | 1 | 7 | 2 | | | | | | 1 | 1 | 1 | | 1 | | | |
| Saigon and Cholon | C | 1 | 2 | | 1 | | 1 | | | 1 | | | | | | | |
| | D | | 1 | | | | | | | | | | | | | | |
| Iraq: Baghdad | C | 37 | 28 | 18 | 9 | | | | | 1 | | | | | | | |
| | D | 18 | 15 | 7 | 3 | | | | | 1 | | | | | | | |
| Kwang-Chow-Wan | C | 34 | 31 | 4 | 1 | | | | | | | | | | | | |
| Madagascar (see also table below): Tamatave | C | | 1 | 1 | 2 | | 1 | P | | | 1 | | | 3 | | 2 | |
| | D | | | | | | | | | | 1 | | | 3 | | | |
| Morocco | C | 71 | 3 | 1 | 16 | | | | | | | | | 4 | | 1 | |
| | D | 34 | 4 | | 2 | | | | | | | | | | | | |
| Nigeria: Lagos | C | 2 | 5 | 1 | 7 | 1 | 1 | 3 | 1 | | 3 | | 2 | 33 | | | |
| | D | 2 | 5 | 1 | 7 | 1 | 1 | 3 | 1 | | 3 | | 2 | | | | |
| Plague-infected rats | | 17 | 11 | 18 | 8 | | 4 | 2 | 4 | | | | | 3 | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Senegal (see table below). | | | | | | | | | | | | | | | | | | |
| Siam | C | 5 | | | 7 | 3 | | | | | | | | 3 | 1 | 1 | | |
| | D | 4 | | | 6 | 2 | | | | | | | | 3 | 1 | | | |
| Bangkok | C | 5 | | | 3 | | | | | | | | | | | | | |
| | D | 4 | | | 2 | | | | | | | | | | | | | |
| Nagara Rajsima | C | | | | 2 | | 1 | | | | | | 1 | | | | | 1 |
| | D | | | | 2 | | 1 | | | | | | 1 | | | | | 1 |
| Syria: Beirut | C | | 12 | 9 | 2 | 3 | 2 | | | | | | | 1 | | 3 | | 1 |
| Tripolitania | C | | | | 2 | | | | | | | | | | | | | |
| Tunisia: | | | | | | | | | | | | | | | | | | |
| Sfax district | C | 21 | 9 | 6 | 1 | | | | | | | | | | | | | |
| Tunis | C | 1 | 1 | 5 | | | | | | | | | | | 1 | | | |
| | D | | 1 | 1 | | | | | | | | | | | | | | |
| Union of Socialist Soviet Republics: | | | | | | | | | | | | | | | | | | |
| Salsk Region | C | | 2 | 5 | 7 | | | | | | | | | | | | | |
| | D | | 1 | 4 | 5 | | | | | | | | | | | | | |
| Stavropol Region | C | | 1 | | | | | | | | | | | | | | | |
| | D | | 1 | | | | | | | | | | | | | | | |
| Union of South Africa: | | | | | | | | | | | | | | | | | | |
| Cape Province | C | P | 1 | 1 | 1 | | | | 1 | | | | | | | | | |
| | D | | | 1 | 1 | | | 1 | | | | | | | | | | |
| Orange Free State | C | | | | | 1 | | 1 | | | | | | | | | | |
| | D | | | | | 1 | | 1 | | | | | | | | | | |

| Place | | May, 1930 | June, 1930 | July, 1930 | Aug., 1930 | Sept., 1930 | Oct., 1930 |
|---|---|---|---|---|---|---|---|
| British East Africa (see also table above): | | | | | | | |
| Kenya | C | 171 | 107 | 97 | 87 | 53 | 7 |
| Ecuador: Guayaquil | C | 0 | 0 | | | | |
| | D | 0 | 0 | | | | |
| Plague-infected rats | | 0 | 0 | | | | |
| Greece (see also table above) | C | | 1 | | | | |
| Indo-China (see also table above) | C | | 11 | 1 | 2 | 4 | |
| Madagascar (see also table above): | | | | | | | |
| Ambositra Province | C | 1 | | | | | |
| | D | 1 | | | | | |
| Antisirabe Province | C | 19 | 3 | 24 | 11 | | |
| | D | 19 | 3 | 24 | 11 | | |
| Miarinarivo Province | C | 5 | 1 | 1 | 2 | | |
| | D | 5 | 1 | 1 | 2 | | |
| Moramanga Province | C | 1 | 3 | | 27 | | |
| | D | | 3 | | 27 | | |

| Place | | May, 1930 | June, 1930 | July, 1930 | Aug., 1930 | Sept., 1930 | Oct., 1930 |
|---|---|---|---|---|---|---|---|
| Madagascar (see also table above)—Con. | | | | | | | |
| Tananarive Province | C | 15 | 16 | 28 | 39 | | |
| | D | 14 | 16 | 28 | 38 | | |
| Senegal: | | | | | | | |
| Baol [1] | C | 13 | 2 | 62 | 79 | 48 | 53 |
| | D | 11 | 2 | 48 | 20 | 23 | 35 |
| Dakar [1] | C | 52 | 53 | 140 | 108 | 3 | |
| | D | 42 | 117 | 122 | 90 | 8 | |
| Louga [1] | C | 54 | 60 | 138 | 75 | 61 | 37 |
| | D | 27 | 21 | 103 | 33 | 30 | 25 |
| Thies [1] | C | 21 | 52 | 54 | 34 | 12 | 24 |
| | D | 8 | 35 | 30 | 20 | 4 | 15 |
| Tivaouane [1] | C | 135 | 43 | 119 | 110 | 20 | 53 |
| | D | 69 | 28 | 70 | 54 | 14 | 31 |

[1] Incomplete reports.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

### SMALLPOX

[C indicates cases; D, deaths; P, present]

| Place | | May 4-31, 1930 | June 1-28, 1930 | June 29-July 26, 1930 | July 27-Aug. 23, 1930 | Week ended— Aug. 30, 1930 | Sept. 6 | Sept. 13 | Sept. 20 | Sept. 27 | Oct. 4 | Oct. 11 | Oct. 18 | Oct. 25 | Nov. 1 | Nov. 8 | Nov. 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | September, 1930 | | | | October, 1930 | | | | November, 1930 | | |
| Algeria: | | | | | | | | | | | | | | | | | |
| Algiers | C | 3 | | 1 | 3 | | | | | | | | | | | | |
| Constantine | C | | 1 | 1 | | | | | | | | | | | | 1 | |
| Arabia: Aden | C | | | 1 | | | | | | | | | | | | | |
| Bolivia: La Paz.[1] | | | | | | | | | | | | | | | | | |
| British East Africa (see also table below): | | | | | | | | | | | | | | | | | |
| Tanganyika | C | 409 | 1,610 | 168 | 242 | 198 | 288 | | 36 | 27 | 43 | 4 | 21 | | | | |
| | D | 70 | 301 | 42 | 37 | 4 | 55 | | 1 | 1 | | 1 | 4 | | | | |
| British South Africa: | | | | | | | | | | | | | | | | | |
| Northern Rhodesia | C | 59 | | | | | | | | | | | | | | | |
| | D | 9 | | | | | | | | | | | | | | | |
| Southern Rhodesia | C | 155 | 79 | 31 | 1 | 1 | | | | 14 | 39 | 98 | | | | | |
| | D | 13 | | | | | | | | | | | | | | | |
| Canada: | | | | | | | | | | | | | | | | | |
| Alberta | C | | | 5 | 1 | | | | 1 | | 13 | 8 | 1 | | | | |
| British Columbia—Vancouver | C | 4 | 2 | 6 | 6 | | | 1 | 1 | 1 | | | 1 | | 3 | | |
| Manitoba | C | 10 | 4 | | | 1 | | | | | | | | | | | |
| Ontario | C | 82 | 47 | 24 | 20 | 2 | 2 | 6 | | 1 | | 3 | 15 | | 20 | 9 | |
| North Bay | C | 1 | | | | | | | | | | | | | | | |
| Ottawa | C | 25 | 15 | 13 | 7 | 2 | 1 | 2 | | | | | | 14 | | 9 | 14 |
| Toronto | C | 4 | 4 | 1 | | | | 1 | | | | | | | | | |
| Quebec | C | | 4 | 3 | 5 | | | | | | | | | | | | |
| Montreal | C | | | | 7 | | | | | | | | | | | | |
| Saskatchewan | C | 39 | 22 | 5 | 8 | | | 1 | | | 3 | | | | 2 | | |
| Regina | C | 4 | | | | | | | | | | | | | | | |
| China: | | | | | | | | | | | | | | | | | |
| Changking | C | P | 1 | P | P | P | P | P | P | P | P | P | | | | | |
| Foochow | C | P | P | P | P | | P | | P | | P | | | | | | |
| Hong Kong | C | 12 | 4 | 2 | | | | | | | | | | | | | |
| | D | 9 | 3 | 1 | | | | | | | | | | | | | |
| Manchuria— | | | | | | | | | | | | | | | | | |
| Harbin | C | 20 | 4 | 3 | 2 | | | | | | | | | | | | |
| Kwantung—Dairen | C | 8 | 16 | 8 | | | | | | | | | | | | | |
| | D | 4 | 1 | | | | | | | | | | | | | | |
| Nanking | C | P | P | P | P | P | P | P | P | P | P | P | P | P | | | |
| Shanghai— | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shanghai— | | | | | | | | | | | | | | | | | |
| Foreigners only | C | 2 | 5 | 4 | 3 | | | 18 | | | | | 1 | 1 | | 1 | |
| Including natives | D | 5 | 3 | | | | | 2 | | | | | | | | | |
| Swatow | D | 6 | 4 | 1 | 4 | 1 | 1 | | | 1 | | | 3 | 1 | 1 | | |
| Tientsin | C | 1 | | | | | | | | 1 | | | | | | | |
| Chosen (see table below). | | | | | | | | | | | | | | | | | |
| Colombia: | | | | | | | | | | | | | | | | | |
| Barranquilla | C | | | | 2 | | | | | | | | | | | | |
| Buenaventura | C | 4 | 6 | 10 | 2 | | | | | | | | | | | | |
| Cali | D | | | | | | | | | | 1 | | 1 | | | | |
| Costa Rica: | | | | | | | | | | | | | | | | | |
| Port Limon | C | 2 | 2 | | | | | | | | | | | | | | |
| San Jose | C | 2 | | | | | | | | | | | | | | | |
| Curacao (alastrim) | C | 2 | 1 | 2 | 1 | | | | | | | | | | | | |
| Dutch East Indies: | | | | | | | | | | | | | | | | | |
| Borneo | C | 16 | 12 | 2 | | | | | | | | | | | | | |
| | D | 1 | 1 | | | | | | | | | | | | | | |
| Java— | | | | | | | | | | | | | | | | | |
| Batavia and West Java | C | 12 | 13 | 8 | 12 | 2 | 5 | 2 | 2 | 10 | 2 | 1 | | | | | |
| | D | 7 | 3 | 5 | 5 | 2 | | 1 | 1 | 1 | 1 | 1 | | | | | |
| East Java and Madura | C | | | 1 | | | | | | | | | | | | | |
| Sanggi Islands | C | 26 | | 11 | 36 | 14 | | | | | | | | | | | |
| | D | 5 | | 3 | 2 | 3 | | | | | | | | | | | |
| Egypt: Port Said | C | 1 | | 3 | | | | | | | | | | | | | |
| France (see table below). | | | | | | | | | | | | | | | | | |
| Great Britain: | | | | | | | | | | | | | | | | | |
| England and Wales | C | 1,417 | 926 | 529 | 344 | 99 | 106 | 75 | 61 | 82 | 74 | 44 | 125 | 86 | 87 | 92 | |
| Ashton under Lyne | C | 17 | 7 | 8 | | | | | | | 1 | 1 | 1 | | | | |
| Bradford | C | 2 | | 1 | | | | | | | | | | 1 | | | |
| Cardiff | C | | | 2 | | | | | | | | | | 1 | | | |
| Leeds | C | | | 1 | | | | | | | | | | | | | |
| London | C | 637 | 498 | 250 | 178 | 43 | 44 | 26 | 41 | 30 | 34 | 23 | 33 | 29 | 32 | 41 | |
| London and Great Towns | C | 1,078 | 753 | 408 | 285 | 79 | 84 | 51 | 54 | 55 | 56 | 32 | 80 | 52 | 58 | 68 | |
| | D | | | | | | | | | | | 1 | | | 1 | | |
| Stoke-on-Trent | C | 62 | 32 | 9 | 2 | | | 1 | 1 | | | 1 | | | 1 | | |
| Scotland | C | | 4 | 1 | | | 5 | | | | | | | | | | |
| | D | | | 1 | | | | | | | | | | | | | |
| Honduras: Naco | C | | | | | | | 5 | | | | | | | | | |
| India | C | 22,835 | 12,962 | 7,630 | 4,877 | 830 | 940 | 610 | 761 | | | | | | | | |
| | D | 5,451 | 3,531 | 2,348 | 1,246 | 202 | 209 | 119 | 150 | | | | | | | | |
| Bombay | C | 218 | 113 | 50 | 12 | 2 | 1 | 1 | 2 | | | | | | | | |
| | D | 161 | 79 | 33 | 10 | 2 | 1 | 2 | | | | | | | | | |
| Calcutta | C | 302 | 161 | 73 | 25 | 4 | 5 | 3 | 2 | 3 | 4 | 3 | 2 | 2 | 4 | 3 | |
| | D | 258 | 146 | 56 | 21 | 3 | 4 | 1 | 1 | 3 | 4 | 3 | 1 | 2 | 2 | 3 | |
| Cochin | C | 37 | 16 | 6 | 14 | 1 | 1 | | 1 | | | 8 | 4 | 3 | 5 | 10 | |
| | D | 8 | 4 | | | 1 | | | | | | 1 | | 1 | | | |
| Karachi | C | 14 | 7 | 1 | 4 | | | 1 | 3 | | | | | | | | |
| | D | 4 | 3 | | 3 | | | | 2 | | | | | | | | |
| Madras | C | 72 | 35 | 49 | 38 | 9 | 11 | 6 | 8 | 4 | 4 | 8 | 3 | 2 | 1 | 2 | |
| | D | 15 | 10 | 12 | 11 | 1 | 1 | 1 | 3 | 1 | 2 | 3 | 2 | | | 2 | |

[1] From Jan. 1 to May 31, 1930, 44 deaths from smallpox were reported in La Paz, Bolivia.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

### SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

| Place | | May 4–31, 1930 | June 1–28, 1930 | June 29–July 26, 1930 | July 27–Aug. 23, 1930 | Week ended— Aug. 30, 1930 | Sept. 6 | Sept. 13 | Sept. 20 | Sept. 27 | Oct. 4 | Oct. 11 | Oct. 18 | Oct. 25 | Nov. 1 | Nov. 8 | Nov. 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| India—Continued. | | | | | | | | | | | | | | | | | |
| Moulmein | C | 89 | 21 | 18 | 2 | 1 | | | | | | | | | | | |
| | D | 21 | 7 | 1 | 1 | | | 1 | | | | | | | | | |
| Negapatam | C | 1 | 2 | 4 | 4 | 1 | 2 | | 6 | 4 | 2 | 5 | 3 | 2 | 2 | 2 | |
| Rangoon | C | 6 | 9 | | 3 | | | | | | | | 2 | | | 5 | |
| | D | 1 | 2 | | | | | | | | | | | | | | |
| Tuticorin | C | 5 | 1 | | | | | | | | | | 1 | | | | |
| Vizagapatam | C | 5 | 1 | | | | | | | | | 1 | | | | | |
| India (French): | | | | | | | | | | | | | | | | | |
| Chandernagor | C | 24 | 19 | 4 | | | | 1 | 2 | | | 3 | | | 3 | | |
| | D | 7 | 3 | 3 | | | 1 | 1 | | | | 1 | | | 1 | | |
| Karikal | C | 12 | 11 | 2 | 9 | | 5 | | | 1 | | | | | | | |
| | D | 3 | 8 | 2 | 9 | | 2 | | | 1 | | | | | | | |
| Pondicherry Province | C | 40 | 23 | 26 | 22 | 11 | 7 | 7 | 10 | 11 | 10 | 6 | 11 | 1 | | | |
| | D | 36 | 23 | 25 | 22 | 11 | 7 | 7 | 8 | 11 | 8 | 6 | 11 | 1 | | | |
| India (Portuguese) | C | 47 | 28 | 1 | 9 | 1 | 2 | | 1 | | | | | | | | |
| | D | 8 | 10 | 1 | 2 | | | | | | | | | | | | |
| Indo-China (see also table below): | | | | | | | | | | | | | | | | | |
| Pnompenh | C | 3 | | 1 | | | | | | | | 2 | | | | | |
| | D | | 1 | 1 | 1 | | | | | | | | | | | | |
| Saigon and Cholon | C | 3 | 1 | | 1 | 1 | | | | | | | | | 2 | | |
| | D | 2 | | | 3 | 1 | | | | | | | | | 2 | | |
| Iraq: | | | | | | | | | | | | | | | | | |
| Baghdad | C | 1 | 1 | 3 | 1 | | | | 1 | | 2 | | | | | | |
| | D | 1 | | 1 | 1 | | | | | | | | | | | | |
| Mossoul Liwa | C | 21 | 4 | 67 | | | | | | 63 | | 4 | 2 | | | 6 | |
| | D | 3 | 1 | 20 | | | | | | 27 | | | | | | | |
| Ivory Coast (see table below). | | | | | | | | | | | | | | | | | |
| Jamaica (alastrim) | C | 2 | | | | | | | | | | | | | | | |
| Macao | D | 1 | | | | | | | | | | | | | | | |
| Mexico (see also table below): | | | | | | | | | | | | | | | | | |
| Jalisco (State) Guadalajara | D | 7 | 15 | 4 | 1 | | | | | | 2 | | 1 | 1 | | 1 | 1 |
| Juarez | C | | 6 | | 2 | | | | | | | | | | | | |
| | D | | 1 | | 1 | | | | | 1 | | | | 1 | | | |
| Mexico City and surrounding territory | C | 89 | 77 | 37 | 10 | 7 | 2 | 1 | 1 | | 2 | 1 | 1 | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mexico City and surrounding territory | C | 80 | 77 | 37 | 10 | 7 | 2 | 1 | 2 | 1 | 3 | 5 | 4 | 1 | | | |
| | D | 32 | 17 | 8 | 6 | 1 | 1 | 1 | 2 | | | 1 | 2 | 1 | | | |
| Progreso | C | 1 | | | | | | | | | | | | | | | |
| | D | 1 | 1 | | | | | | | | | | | | | | |
| Vera Cruz | C | | | | | | | | | | | | | | 1 | | |
| Morocco (see table below). | | | | | | | | | | | | | | | | | |
| Nigeria: Lagos | C | | 1 | | | | | | | | | | | | | | |
| Poland | C | 3 | 2 | | | | | | | | | | | | 3 | | |
| Portugal: | | | | | | | | | | | | | | | | | |
| Lisbon | C | 8 | 10 | 13 | 50 | 7 | 8 | | 12 | 4 | 5 | | 7 | 12 | | | |
| Oporto | C | | | | 1 | | | | | | | | | | | | |
| Siam | C | 2 | | 6 | | | | | | | 1 | | | | | | |
| | D | | | 3 | | | | | | | | | | | | | |
| Somaliland, British: Boales | C | | | | | | | | | | 1 | | | | | 1 | |
| | D | | | | | | | | | | 1 | | | | | | |
| Spain | C | | 12 | 5 | 2 | | 4 | 1 | | | | | | 14 | 5 | | |
| Straits Settlements | C | 11 | 9 | 11 | 8 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 4 | |
| | D | 3 | 2 | 3 | 3 | | 1 | | | | | 1 | | | 1 | 1 | |
| Sudan (Anglo-Egyptian) | C | 19 | 67 | 12 | 42 | 102 | 5 | 20 | 1 | 25 | 1 | 56 | | 3 | | | 2 |
| | D | 2 | 3 | 1 | 3 | 50 | 2 | | | 2 | | 5 | | | | | 1 |
| Sudan (French) (see table below). | | | | | | | | | | | | | | | | | |
| Switzerland: Berne Canton | C | | | 1 | 2 | | | | | 1 | | | | | | | |
| Syria (see table below). | | | | | | | | | | | | | | | | | |
| Taiwan: Taihoku (see table below). | | | | | | | | | | | | | | | | | |
| Tunisia: Tunis | C | 2 | 2 | 1 | | | | | 2 | | | | | | | | |
| Turkey (see table below). | | | | | | | | | | | | | | | | | |
| Union of South Africa: | | | | | | | | | | | | | | | | | |
| Cape Province | C | P | | P | | | P | P | P | | | P | | | | | |
| Orange Free State | C | | | P | P | | | | | | | | | | | | |
| Transvaal | C | | | | P | P | P | P | P | P | | P | | | | | |
| Upper Volta | C | 1 | 13 | | | | | | | | | | | | | | |
| On vessel: | | | | | | | | | | | | | | | | | |
| S. S. Naldera, at Port Said | C | 1 | | | | | | | | | | | | | | | |
| S. S. Manoa, from Honolulu to San Francisco | C | | | 1 | | | | | | | | | | | | | |

| Place | | April, 1930 | May, 1930 | June, 1930 | July, 1930 | August, 1930 | | | September, 1930 | | | October, 1930 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1-10 | 11-20 | 21-31 | 1-10 | 11-20 | 21-30 | 1-10 | 11-20 | 21-31 |
| Indo-China (see also table above) | C | 261 | 305 | 213 | 238 | 59 | 34 | | 54 | 52 | 86 | 32 | 62 | 164 |
| | D | | | | | | | | | | | | | 4 |
| Ivory Coast | C | | | | | | | | | | | | | |
| Sudan (French) | C | 521 | 274 | 76 | 34 | | | 39 | | P | | | 17 | |
| | D | 36 | 32 | 18 | | | | 3 | | | | | 2 | |
| Syria: Beirut | C | 19 | 7 | 7 | 2 | 1 | | | | | | | | |
| Taiwan: Taihoku | C | 12 | | | | | | | | | | | | |

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

### SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

| Place | | May, 1930 | June, 1930 | July, 1930 | Aug., 1930 | Sept., 1930 | Oct., 1930 |
|---|---|---|---|---|---|---|---|
| British East Africa (see also table above): | | | | | | | |
| Kenya | C | 171 | 142 | 186 | ---- | ---- | ---- |
| Uganda | C | 78 | ---- | ---- | ---- | ---- | ---- |
| | D | 69 | ---- | ---- | ---- | ---- | ---- |
| Chosen | C | 107 | ---- | 3 | 2 | ---- | ---- |
| | D | 35 | ---- | ---- | ---- | ---- | ---- |
| Seishin | C | 2 | 1 | 2 | ---- | ---- | ---- |
| | D | 1 | ---- | ---- | ---- | ---- | ---- |
| France | C | 51 | ---- | 1 | ---- | ---- | ---- |
| Mexico: Durango (see also table above) | D | 4 | 3 | 3 | 3 | 2 | ---- |
| Morocco | C | 18 | 5 | 3 | 8 | 1 | 4 |
| Turkey | C | 16 | ---- | ---- | ---- | ---- | ---- |

### TYPHUS FEVER

| Plac | | May 4–31, 1930 | June 1–28, 1930 | June 29–July 26, 1930 | Week ended— August, 1930 | | | | | September, 1930 | | | | October, 1930 | | | | November, 1930 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2 | 9 | 16 | 23 | 30 | 6 | 13 | 20 | 27 | 4 | 11 | 18 | 25 | 1 | 8 |
| Algeria: | | | | | | | | | | | | | | | | | | | |
| Algiers | C | 15 | 3 | 6 | ---- | ---- | ---- | 2 | ---- | 3 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Constantine Department | C | 6 | 12 | 2 | ---- | ---- | ---- | 3 | ---- | ---- | ---- | ---- | ---- | 2 | ---- | ---- | 1 | ---- | ---- |
| Oran | C | 3 | 4 | 3 | ---- | 1 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | 1 | 2 | ---- | ---- | ---- |
| Bolivia: La Paz.[1] | | | | | | | | | | | | | | | | | | | |
| Brazil: Porto Alegre | C | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Bulgaria | C | 6 | 16 | 10 | ---- | 1 | ---- | ---- | ---- | 2 | 2 | ---- | 2 | ---- | 1 | 3 | ---- | ---- | ---- |
| | D | 2 | 1 | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| China: | | | | | | | | | | | | | | | | | | | |
| Manchuria—Harbin (see also table below) | C | 13 | 8 | 2 | 2 | ---- | ---- | ---- | 2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Shanghai | C | ---- | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Chosen (see table below). | | | | | | | | | | | | | | | | | | | |
| Czechoslovakia (see table below). | | | | | | | | | | | | | | | | | | | |

Egypt:

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Egypt: | | | | | | | | | | | | | | | | | | | |
| Alexandria | C | | 1 | 1 | | | 1 | | | 1 | 1 | 1 | 1 | | | | | | |
| Beheira Province | C | 49 | 45 | 15 | | | | | | | | 1 | | | | | | | |
| | D | 13 | 4 | 2 | | | | | | | | | | | | | | | |
| Cairo | C | | | | 2 | | | 5 | | | 1 | | | | | | | | |
| Port Said | C | | | | | | | 4 | | 1 | | | | 1 | | | 1 | | |
| Great Britain: Scotland— | | | | | | | | | | | | | | | | | | | |
| Dunfermline | C | | | 1 | | | | | | | | | | | | | | | |
| Glasgow | C | 1 | | | | | | | | | | | | | | | | | |
| | D | 1 | | | | | | | | | | | | | | | | | |
| Greece (see table below). | | | | | | | | | | | | | | | | | | | |
| Ireland: | | | | | | | | | | | | | | | | | | | |
| Irish Free State— | | | | | | | | | | | | | | | | | | | |
| Galway County—Oughterard | C | | | 2 | | | | | | | | | | | | | | | |
| Leitrim County—Mohill | C | | 9 | 1 | | | | | | | | | | | | | | | |
| Mayo County— | | | | | | | | | | | | | | | | | | | |
| Ballina | C | 2 | 1 | 1 | | | | | | | | | | | | | | | |
| Castlebar | C | | | | | | | 1 | | | | | | | | | | | |
| Swinford | C | 14 | | | | | | | | | | | | | | | | | |
| Westport | C | | | 2 | 1 | | | | | | | | | | | | | | |
| Roscommon County— | | | | | | | | | | | | | | | | | | | |
| Roscommon | C | | | 1 | | | | | | | | | | | | | | | |
| Strokestown | C | | | 1 | | | | | | | | | | | | | | | |
| Wicklow County—Shillelagh | C | | 4 | 2 | | | | | | | | | | | | | | | |
| Latvia (see table below). | | | | | | | | | | | | | | | | | | | |
| Lithuania (see table below). | | | | | | | | | | | | | | | | | | | |
| Mexico: | | | | | | | | | | | | | | | | | | | |
| Durango | D | | | | | | | | | | | 1 | 1 | | 1 | | | | |
| Mexico City, including municipalities in Federal District | C | 6 | 9 | 5 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | | | | 3 | 5 | 1 | | |
| | D | 3 | 1 | | 1 | 1 | | | | 1 | 1 | | | | 2 | | 1 | | |
| Morocco | C | 11 | 15 | 11 | | | | 8 | | 2 | | | | | | | 1 | | 1 |
| | D | | | | | | | | | | | | | | | 1 | | | |
| Palestine | C | 2 | 2 | 6 | | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 | 1 | | | |
| Poland | C | 171 | 117 | 36 | 10 | 15 | 2 | 7 | 2 | 3 | 6 | 12 | 3 | 6 | 6 | 7 | 7 | 8 | |
| | D | 5 | 11 | 4 | 1 | | 1 | 1 | | 1 | | | 1 | | | 1 | | | |
| Portugal: Oporto | C | | | | | | 1 | | | | | | | 1 | 1 | 1 | | 2 | |
| Rumania | C | 227 | 58 | 28 | 5 | | 2 | 2 | 1 | | 1 | 2 | 3 | 4 | | | | | |
| | D | 35 | 5 | 8 | 2 | | | | | | | | | | | | | | |
| Spain | C | | 3 | 3 | | | | | | | 1 | | | | | 1 | | | |
| | D | | | 1 | | | | | | | 1 | | | | | 1 | | | |
| Tunisia | C | 6 | 18 | 24 | 2 | 5 | | 3 | 1 | 1 | | 4 | 1 | 1 | 1 | 9 | | | |
| Turkey (see table below). | | | | | | | | | | | | | | | | | | | |
| Union of South Africa: | | | | | | | | | | | | | | | | | | | |
| Cape Province | C | P | P | P | P | P | P | P | P | P | P | P | P | P | P | | | | |
| Municipality of East London | C | | | 1 | | | | | | | | 2 | | 1 | | | | | |
| Natal | C | P | P | 1 | P | P | P | | | | P | | P | P | | | | | |
| Orange Free State | C | P | P | P | P | P | P | P | P | P | P | P | | | | | | | |
| Transvaal | C | | | P | P | P | P | | P | P | P | P | P | P | P | | | | |
| Yugoslavia (see table below). | | | | | | | | | | | | | | | | | | | |

[1] 12 deaths from typhus fever were reported in La Paz, Bolivia, from Jan. 1 to May 31, 1930.

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

### TYPHUS FEVER—Continued

[C indicates cases; D, deaths; P, present]

| Place | | May, 1930 | June, 1930 | July, 1930 | Aug., 1930 | Sept., 1930 | Oct., 1930 |
|---|---|---|---|---|---|---|---|
| China: Harbin (see also table above) | C | 240 | ------- | 14 | 5 | ------- | ------- |
| Chosen: Seoul | C | 43 | 2 | 3 | 2 | 1 | ------- |
| Czechoslovakia | C | 12 | 1 | ------- | 1 | ------- | ------- |
| Greece: Athens | C | 3 | 3 | 6 | 6 | ------- | ------- |
| Latvia | C | 3 | 3 | 3 | 1 | ------- | ------- |
| Lithuania | C | 27 | 16 | 18 | 7 | 24 | 1 |
| | D | ------- | ------- | ------- | 1 | 2 | ------- |
| Turkey | C | 16 | 2 | ------- | 2 | ------- | ------- |
| Yugoslavia | C | 16 | 6 | ------- | ------- | ------- | ------- |
| | D | 1 | ------- | ------- | ------- | ------- | ------- |

### YELLOW FEVER

| Brazil: | Cases |
|---|---|
| Mage, on the Leopoldina Ry., between Rio de Janeiro and Nictheroy, Apr. 22, 1930 | 2 |
| Campos, Rio de Janeiro Province, May 23, 1930 | 1 |
| Para, June 23, 1930 | 2 |

| Gold Coast: | Cases |
|---|---|
| July 10, 1930 | 1 |
| Albosso, Aug. 5, 1930 (deaths) | 1 |
| Liberia, Monrovia, June 3, 1930 | 1 |
| Nigeria, Lagos, July 12, 1930 (probably laboratory infection) | 1 |